

FORMING A COMPLETE RECORD OF THE PROCEEDINGS OF ALL PUBLIC COMPANIES.

[PRICE 6D.]

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RAILWAY STATISTICS.

(Abstracted from a pamphlet, entitled *Railway Reform*,—author of which appeared in the *Mining Journal* of the 10th M.A.)

BRANFORD JUNCTION—25 miles: The bill of incorporation for this company passed in 1837, and the line was completed in 1839. A bad system of management appears to have prevailed here, and gave such general dissatisfaction that a committee of investigation into the company's affairs was appointed. Charges of the most flagrant nature were circulated, respecting the manner in which the estimates have been made, and the work done, the appointment of officers, either inefficient, or who could not devote their time to the company's affairs, and on other points against the directors, to which they have not yet replied. The capital expended on this line has been \$23,000, and the number of passengers for the year ended 30th June, 1863, was 653,311, and revenue 40,500.

BRISTOL AND EXETER—75 miles: This line commenced in 1826, and extends the communication into the West of England, from the Bristol terminus of the Great Western line; it is now open to Exeter—52½ miles—and, up to the present time, has cost 1,445,000. A lease has been granted to the Great Western Company at a rental of about 50,000, per annum, and this line may be considered of equal importance with almost any other in the Kingdom, connecting, as it will when completed, the ports of Devon, and, so to speak, eventually, of Poole, Plymouth, Falmouth, and even the Land's End, with the Great Western line, and thence with the metropolis: it is probable these two important companies will be eventually amalgamated.

CANTERBURY AND WHITFORD—6 miles: This line was commenced in 1856, and completed in 1859, at a cost of 50,000; it has not answered the expectations of the proprietors; the number of passengers for the year ended 30th June, 1863, was 57,000, and total receipts 7200.

CHICHESTER AND GREAT WESTERN—42 miles: This railway joins the Great Western at Bournemouth, twenty-seven miles from London, and is completed to Chichester—18 miles—which distance has been leased to the Great Western for 17,000, per annum, until 1866; the estimated cost of completing the line is 900,000, and an amalgamation of the two companies is in contemplation.

CHESTER AND BIRKENHEAD—15 miles: At the time of the passing of this company's Act in 1827, there was every prospect of its being a profitable undertaking, and its connection with Birmingham by means of the Chester and Crewe branch, seemed to insure the brightest prospects. The Great Junction Company having, however, interposed and secured to themselves the latter named line, they have effectively broken off all the traffic, which formerly passed through Chester, and by this line for the southern counties, have considerably injured the property, and the shares have declined about 50 per cent. From the last half yearly report, it appeared that the number of passengers during that period was 137,659, the receipts were 16,000, and the expenses had been reduced, as compared with the previous half-year, 1700.

CHESTER AND CREWE—15 miles: This line was commenced in 1827, and finished in 1829, and forms with the Chester and Birkenhead line, the most direct route to Liverpool. It was purchased by the Great Junction Company to prevent a diversion of the traffic from their line. The capital expended was 420,000, in 500 shares, for which the Great Junction gave the holders 250 shares in their company, the value being equivalent in the market, it might be considered more an amalgamation than a sale. The aqueduct carrying the River Mersey over the railway, is a splendid work 400 feet in length, and the principal bridge across the river Weaver has eight arches, each of 40 feet span.

CLAREMONT—32 miles: The Act for this line was passed in May, 1828, authorizing a capital of 500,000; there are three branches, one from Crow Tree to Durham, 10½ miles, another from Norton Tull-gate to Stockton, two miles, and a third from the Durham branch to Byer's-green, five miles.

DURHAM AND DARLINGTON—50 miles: It is several years since this line was commenced, but pecuniary embarrassments delayed its progress; the *Blackwall* Line Commissioners, however, liberally advanced 150,000, and there is now every probability of the works being completed in another year.

DURHAM AND NEWCASTLE—8 miles: The Act incorporating this company was passed in 1821, with a capital of 370,000. In the year ended Feb. 28, 1829, the number of passengers was 1,328,000, and receipts 35,307½; the second half year were then raised 12½ per cent., when the number of passengers for the next year was 1,360,783, and amount 36,375. The shares now fall to 35 per cent. below par, when the directors, determining on a bold and liberal line of policy, considerably reduced the fares, when in 1832, the number of passengers increased to 1,750,070, and the shares have now reached 7 premium.

DURHAM AND ARMDATH—10½ miles: The amount expended on this line up to the annual meeting on the 7th June last, was 133,100, at which meeting a resolution was passed for closing the capital account, all further expenses to be paid out of receipts, which amounted in the past current year to 12,000, showing a deficiency of 9000, in comparison with the preceding year; this line has only returned 3 per cent. on the capital expended.

DURHAM AND NEWCASTLE—11 miles: This Act was passed in May, 1826, capital 170,000; the number of passengers in the past year was 92,346, and receipts 2700.

DURHAM AND CHARLTON—3 miles: On this line the waggoners are drawn by horses; the gross receipts for the year ending 30th June, 1863, were 1000.

DURHAM JUNCTION—4½ miles: The Act for the incorporation of the company was passed in June, 1838, the amount authorized to be raised was 120,000; the works were not commenced until 1839, and completed in 1838. A splendid viaduct near Lowdham, over the river Wear, is 500 feet long, and was erected at a cost of 40,000. The passenger traffic on this line is small, like most of the Durham lines; the principal return is from coal, and where, as in this instance, the mines and railway are in the property of the same parties, an unprofitable return is made.

DURHAM AND BIRKENHEAD—15 miles: This Act was passed in 1834; the total amount then authorized to be raised was 350,000. This is the longest line in the Kingdom on which stationary engines are used, of which there are eight, and no locomotives are employed; the receipts for the last current half-year were 18,000. At one time the office of this company were in an bad state, that a dissolution appeared inevitable, but some improvement has taken place, and it now pays about 3 per cent. on the capital expended.

GLoucester and Cheltenham—41 miles: This company's Act of incorporation passed the Legislature in July, 1825; the joint-stock capital authorized to be raised was 1,000,000, and 123,333, by means of all £12,333. It was originally intended that this line should be constructed through the populous counties of Essex, Suffolk, and Norfolk, calling London with Norwich and Yarmouth—180 miles; but owing to engineering difficulties, the capital required to be sufficient for the whole, having sufficed to complete the line to Cheltenham. The London viaduct over the various branches and marshy grounds of the East, is a fine specimen of engineering skill; it consists of 160 arches, and is 5½ miles and a quarter in length. Since the line was opened to Cheltenham in March last, the receipts have averaged rather more than 5000, per week.

GLoucester and DARTMOUTH—2½ miles: The Act for the incorporation of this company was passed in May, 1826, but the line was not opened until July, 1831; the capital was 123,000. In the years 1829 and 1830, the number of passengers was 208,104, and receipts 13,775; the proportion of third to first class passengers being about fifty-eight to one, and second to first thirteen to one. The traffic is small in amount, but the receipts are good; the expenses being for the three years, to the 31st December, 1830, 18,000, 18,000, and the receipts for the same period 41,775, 100, 00. The number of passengers for the six months ended December 31st, 1841, was 123,000.

GLoucester and GLOUCESTER—41 miles: The capital for this company was 1,000,000, afterwards raised to 1,200,000, and the Act of incorporation was obtained in 1839; there is a cutting in Aylesbury parish, three miles in length, and fifty feet deep; there are also five tunnels, fifty-two bridges, and several viaducts, the principal of which is 700 yards in length. This line was opened throughout in February, 1842, and at the half yearly meeting, three months after the opening, the total number of passengers had been—first class, 28,500; second class, 143,327; third class, 246,500—total 417,327. The fares are very low, and this company has succeeded very well, having paid 3 per cent. on the capital.

GLoucester and NEWCASTLE—4 miles: The Act for this line was passed in August, 1830; capital 140,000. About as this line is, there are some heavy works on it; the Birmingham canal is 1000 yards long, and there are several bridges, the principal of which is over the Quensberry-road.

GLoucester and CHICHESTER—41 miles: The estimate for the construction of the works for the improvement of the Chichester Canal shows the extraordinary differences which sometimes occur in the calculations of contractors. Only two estimates were given in; the respective amounts were, in round numbers, as follows—lowest, 124,000; second lowest, 120,000; third lowest, 125,000; highest, 126,000. It seems that the second lowest offer has been accepted.

GRAND NATIONAL—These British capitalists who speculated together in common ways originating on the coast of North America, have received from the capitalists of that continent many most important privileges and concessions, to carry out this great mode of communication between the two continents, and ports that return to the South Pacific Ocean. Notwithstanding the result of the first operations has not been such as was anticipated, yet the directors and the proprietors of the system to travel by steam boats—across the Atlantic to them—have been successful, and that by this means has been opened a traffic which must be highly advantageous to our merchants and the shipping interests of Great Britain. It is not to be expected that, but that such in the same purpose has been discussed at Philadelphia—Northern Union.

RAILWAY REFORM.

A meeting on this subject was held at the Poplar Literary Institution, on Wednesday, the 20th inst., Dr. Newbery in the chair. The Chairman, in addressing the attention of the audience, to the gentlemen who were about to address the meeting, observed, that railways had in the course of the last few years made so great a change in the commercial relations of the country, and were capable of conferring so much greater an amount of good on the community than they at present afford, if the conveniences and facilities which they afforded were placed within the reach of all; that it concerned every man to enquire into the causes of their, at present, comparatively limited usefulness. In the parish of Poplar the increase in the value of property would be exceedingly great, if the fares on the Blackwall Railway were reduced to two pence and a penny, instead of continuing at their present rates; while there was every reason to believe that the profits to the shareholders would be not at all lessened by such reduction. This meeting, however, it must be remarked, was not called for the purpose of suggesting any scheme that would be detrimental to the interests of the shareholders of this or any other company, but simply to discuss the propriety of endeavouring to induce the legislature to interest themselves, for the general good, with railways, somewhat after the manner by which so much service had been done the country in the adoption of Mr. Rowland Hill's plan of a uniform penny postage. Mr. WATKINS observed, that the nature of railways was such, that from their cheapness and the saving of time in travelling by them, it was certain that they would become much more extensive in this country than they now are, and depending, as we do in this country, for our prosperity on our commercial facilities, unless we make our railway travelling as easy of access to all, by rendering travelling by them as cheap as it is by railways on the continent, other countries will necessarily have an advantage over us, in being enabled to furnish goods at less cost to the consumer than we can, from ours being made dearer by higher rates of railway travelling. It should be well understood that we desired not to interfere with the interests of the shareholders in railways. Their spirited projectors had a right to the fair market price of their shares, and nothing could be further from his (Mr. Watkins') thoughts, than that they should not receive complete compensation. Competition in other modes of travelling was a sufficient protection to the public, but competition with railways was out of the question; when it had been tried it had failed, and must necessarily fail; such heavy losses were entailed on the coach proprietors, who endeavoured, by recurring to the olden modes of travelling, to afford the public an opportunity of travelling at a cheap rate, that it was not likely now to be expected that they would continue the unequal battle. He begged leave to move the first resolution—"That railway travelling has already, to a great extent, and must necessarily still further, supersede all the olden modes of travelling, on account of its superiority in saving time, and the low rates they can afford to carry at, but that the poorer classes are excluded almost entirely from the benefit which this mode of travelling might confer upon them, in consequence of the monopoly which its very superiority gives." NORTH MONK, Esq., in seconding the resolution, said that he had not bestowed so much consideration on the subject as to be enabled to enter in detail into the merits of the question, but he was sure that it was a subject that required the attention of all. He deemed it to be a matter of the greatest importance that railways should not be monopolized to the prejudice of the community; and whatever plans any one came forward to suggest should meet with attentive consideration from the public, as there was no doubt that by frequent discussions the best mode of proceeding for promoting the general welfare of the country, would be generally understood and acted upon. With regard to the Blackwall Railway, nothing could of course be done without a full concurrence of the directors, as they had a perfect right to manage their property in any way they thought proper, and could not be expected to make any changes in their own arrangements unless fully guaranteed against any loss. Mr. ALEXANDER LEE said that he was extremely happy a question of such importance was brought in a practical shape before them. It was very evident that on the Blackwall Railway four times the number of passengers could be carried without any increased expense. At any hour of the day a long train of carriages could be seen passing backwards and forwards comparatively empty, while thousands of poor individuals were obliged to travel backwards and forwards on foot. Now, this, he considered, a most unnatural state of things. No blame could be attributed to directors; their duty rendered it necessary to obtain as much money as they possibly could for the shareholders, and that, in the exercise of their discretion, they fixed the rates at the point which they considered would pay best. It was, however, to be observed, that on all railways, and indeed the same principle held good with regard to every thing else, "the lower the price was reduced, the greater the extent of benefit." From the pamphlet which he held in his hand, it appeared, that in the week ending the 9th of March, the number of passengers by the Blackwall Railway was 24,400, and the amount received 497; in the week ending the 16th of March, the fares having been reduced, about 30 per cent., the number of passengers was increased upwards of 31,000, and the amount received was 509; in the following week the number of passengers was still further increased up to 39,000, and the amount received 630; thus it appeared, that by reducing the fares 30 per cent., a saving to that amount was effected in favour of those who travelled, and 15,000 persons were enabled to have the benefit of railway travelling, who otherwise would have been deprived of it. He would refer to another instance on the Greenwich line; they had reduced their fares within the last few weeks 50 per cent., and so far from losing by the change, there was a small balance in their favour. This, however, was the evil of the present system—if the balance happened to strike on the wrong side, if it happened to be in favour of high fares, as a matter of course the railway proprietors would choose high fares, they would tax the public 50 per cent., although they might not gain more than 1 per cent. themselves. They could not blame directors, they had as much right as any man in his shop had to charge what price they thought proper, and they could not be expected to sacrifice any of their income for the benefit of the public; but this they did complain of, they complained of the existence of such a system, by which the interests of the public were totally lost sight of in one of the most important matters. He would not trespass further on their time, but begged leave to move the second resolution—"That in the opinion of this meeting, the reduction of the present fares to one-third their amount, would confer a great blessing on the trading and other classes of the country, and might be adopted without loss to the shareholders, as more than three times the present number would be induced to travel, as has been demonstrated on all the lines in this country which have adopted low rates." The resolution was briefly seconded by Mr. R. SMITH.—Mr. W. T. JENNINGS, in rising to move the third resolution, said that he had never read Mr. Rowland Hill's pamphlet, and, therefore, he could say nothing about its contents, but so far as travelling from here to London for 1d. instead of 4d., he should like it well, and he had no doubt if the directors saw their way clear, so that they could assist both the public and their own shareholders, they would willingly do it. The third resolution was then—"Since it has already been proposed, by the author of the very able pamphlet entitled *Railway Reform*, that his principles be tested upon the Blackwall Railway, in consequence of its being the most eligible, its arrangements being complete, that an increase of passengers would involve but little additional trouble or expense, and as the spirited projectors are desirous of benefit at present from their large outlay of capital, it is equally their interest, with the public, that some change be adopted."—Mr. BAKER moved, and Mr. FRANKS seconded, the fourth resolution—"That a committee be chosen, with power to add to their number, for the purpose of embodying these resolutions, in a memorial to her Majesty's Government, and the Blackwall Railway directors, and to take such further steps for calling public attention to the subject, as may, by them, be deemed necessary."—Members of the committee were named, with power to add to their number; the meeting then separated.

ACTS OF THE ERA IN FUTURE.—A communication on the subject of the water on the communication for the construction, composed of lines and provisions (in part of Roman cement, and called "beton"), has been made in the Paris Academy of Sciences by M. Vicat, in which he writes that he has ascertained that beton made with artificial porous sandstone in its own water is considerably stronger, and more durable than beton made with natural sandstone. The author, in his experiments to ascertain the cause of this fact, found that the water of the Mediterranean contains 700 of sulphate of magnesia, while that of the ocean (in the channel) contains only 200; the quantity of sulphate of magnesia in each water, M. Vicat points out various modes of carrying the investigation, according to the locality in which it is to be used.

CAST AND WROUGHT-IRON RAILS.

A Select Committee of the Legislature of the United States having been appointed to consider a memorial from some parties connected with the manufacture of iron, praying the enactment of a law providing that the renewal of the State railways, when required, shall be made with Pennsylvania cast-iron, have made their report, in which the subject is considered under three heads—viz., 1. Of the rolled-iron rails in use; 2. Of the objections to them; and 3. Of cast-iron rails.

In the year 1820, Mr. Birkinshaw, of the Bedlington Iron-Works, took out a patent for rolled-iron rails of the edge pattern, and these were pushed into use in England by parties interested in their manufacture, under the plausible argument that rails of rolled-iron could be made of such greater strength and toughness than cast-iron, in proportion to their size and weight, that great economy would be the result; accordingly, we find, some years after, the Liverpool and Manchester Railway Company were induced to lay down rails of only 35 lbs. to the lineal yard, and, although not fourteen years have yet elapsed, the whole has been so completely worn out, that throughout the entire length rails of 75 lbs. per yard have been substituted. From the investigations of this committee it would appear, that successfully to resist the action of the ponderous machines and trains now used on railways, a certain quantity of metal is necessary, whether of cast or wrought-iron—and the great question is, what weight is absolutely necessary to carry on the surface of the rails the traffic now usually given over them. Professor Vignoles (who has, perhaps, paid as much attention to minute details in the formation of railroads and maintenance of way as any other civil engineer extensively employed in their construction), in one of his recent lectures at the London University (which were originally and exclusively reported in the *Mining Journal*), stated, that the top table or button (as it appears in section) of a rolled rail should have a sectional area of at least four square inches, or 40 lbs. to the yard, while the base ought to have at least as much—this, with chairs, giving 100 lbs. per yard as necessary to support the ponderous locomotives of the present day. The last tariff enacted by the Congress of the United States imposes a duty of 25 dol. per ton, on all rolled-iron imported; and the committee's report states, that, as the best lines are found to be those with timber sleepers throughout, the strongest objection to cast iron rails—namely, brittleness—is thereby removed, and, as the great object of a railway is smoothness, straightness, and a level surface, the great question is, how are these requisites to be satisfied?

It then goes on to consider the objections to rolled-iron rails, and it appears that although early writers on railroads made out that wrought-iron possessed more strength and toughness than cast, modern practice has proved that cast-iron, either in rails or wheels, suffers much less in wear. The experience already had would prove that cast rails can be employed with success and economy; those used on the turn-outs of the State railways resemble an inverted U, cast solid, with a base six inches broad and seven eighths of an inch thick, the bottom of the rail on which the wheels run being two and a half inches wide and two inches high, and the weight about 100 lbs. to the lineal yard; these rails are fourteen feet in length, laid and moved on detached bearings, have been in use since 1833, and are in far better condition than rolled-iron rails on the line laid down at the same time;—and, after an extensive inquiry, the committee consider that cast-iron rails are the least liable to accident, most durable, and consequently the most economical.

In connection with this subject, Mr. J. Trantwine has a paper in the *Journal of the Franklin Institute* for July last, in which he considers the several properties of cast and wrought-iron rails, as well as the shapes of the various sections, and he also recommends the inverted U as resisting the action of heavy bodies in a state of motion better than any other; and the writer considers that it is quite proved that the wear of cast rails is far greater than that of rolled ones.

METHOD OF SILVERING CAST-IRON, AS PRACTISED BY MAJOR JEWREINOFF AT ST. PETERSBURGH.

The combination of iron with carbon (cast-iron) from the ease with which it melts, and the consequent possibility of taking the finest impressions of form, has come into very extensive application. The art of founding converts cast-iron into enormous arches, columns, canons, and also into the most delicate bracelets, ear-rings, &c. Unfortunately the moist atmosphere very soon alters the surface of these objects, and it is found necessary to coat them with paint, which gives the cast iron, the colour of which is itself not very attractive, the appearance of mourning. In the present state of the art of founding, cast-iron might easily be substituted for bronze, were it not for its sombre appearance, which entirely excludes it. This disadvantage may, however, be entirely overcome, from the possibility of plating it with silver; in fact, cast-iron may be readily silvered and equally as well as copper and bronze. Some successful experiments which I have made on this subject, induce me to give a short description of the method which I have employed. The liquid for silvering is prepared in the following manner.—Cyanide of potassium, prepared according to Liebig's method, is introduced into a stoppered vessel, and freshly prepared pure chloride of silver, still in a moist state, added; the whole being covered with water, and shaken violently for some time at the ordinary temperature. An excess of chloride of silver is taken, and should a small quantity of it remain undissolved, a few pieces more of the cyanide are added after some time, taking care, however, to avoid having an excess of the latter salt, but always a small quantity of undissolved chloride at the bottom of the vessel. This last circumstance is important, because when the liquor contains too much free cyanide of potassium, it is easily decomposed, and moreover does not silver so well. Before employing it, it is filtered, and is thus rendered perfectly clear, iron and a little chloride of silver remaining on the filter. I effect the plating by means of a galvanic battery of one pair, consisting of a zinc and a coke cylinder, which are separated from each other by means of an earthen diaphragm. The pair are placed in a glass vessel containing dilute sulphuric acid, and dilute nitric acid is conveyed into the earthen diaphragm. Experience has shown me that the best mixture for the coke cylinders should consist of five parts by weight of finely pulverized coke, eight parts pulverized coal, and two parts common fine flour. When the cylinders are dry, they are placed in earthen crucibles, in the lids of which there is an aperture for the escape of the gases, and are then heated to redness.—These cast-iron objects may be most easily silvered which have not been painted, as the removal of the paint from the surface of the metal is somewhat difficult. The cleaned object is immersed in the silver solution, and connected with the zinc pole by means of a conducting wire, and a platinum plate immersed in the liquid at some distance from the object to be silvered, and connected with the coke cylinder. A plate of cast iron, of four square inches surface, is generally completely plated in thirty minutes.—*Bulletin de St. Petersburg.*

AMALGAMATION OF RAILWAYS.

Three important meetings have been held during the present week, with a view of carrying out the principle, which has for some time been considered a desideratum, for various lines of railway having a common terminus, or common interest—namely, the amalgamation of the capital, stock, shares, and other property, into one management. The meetings alluded to were—first of the North Midland proprietors, held at Derby, on Monday; that of the Birmingham and Derby Company, held at Birmingham, on Wednesday; and that of the Midland Counties Company, held at Derby, on Thursday. The proceedings at the first were very orderly, and the resolution for amalgamation, on the terms proposed by the joint committee of the three companies, was passed unanimously; at the second, the resolution was also carried with but one dissent; in the case of the Midland Counties, however, a strong opposition was manifested towards the amalgamation, more particularly with regard to the North Midland Company, which was thought to be the greatest gainer by the amalgamation, as the coming up of the votes taken on the motion, there appeared, for the amalgamation 1732, and 439 votes against it. Taking it generally, therefore, the principle appears to be well established by the proprietors of these lines, and may, perhaps, lead to the example being followed by other competing lines in various parts of the Kingdom. One thing is quite obvious, and of paramount importance—namely, that the great reduction of expenditure, effected by a joint management, must tend to improve the dividend of the in too many instances patient and ill-regulated shareholders.

PROCEEDINGS OF PUBLIC COMPANIES.

BRITISH IRON COMPANY.

A special general meeting of this company was held at the London Tavern, Bishopsgate-street, on Tuesday, the 19th inst., for the following purposes:—namely, to receive a report from the directors upon the passing of the Act of Parliament conferring the disposal of the company's property, to sanction the arrangements made to accomplish the passing of the said Act, to consider the measures for the payment of the remaining liabilities of the company, and to appoint a committee to assist the directors in winding up the concerns.

The chair was taken by Sir GEORGE LARKE, Bart., who read the notice convening the meeting, and also the following report of the directors and committee of proprietors:—

REPORT.
In conformity with the resolutions passed at the last special general meeting, the directors and committee have now to report that, on the 24th of August last, the Special Act was given to an Act of Parliament to authorize the sale of the estates and properties belonging to the British Iron Company. In the peculiar position in which the company then stood, your directors and committee considered the passing of this bill as a matter of the highest moment to the interests of the shareholders, and after a due consideration of all that they regarded as important on that point, they have now to report that the bill has been passed, and that the company is now in a position to wind up its affairs.

In the progress of the bill through Parliament, it was opposed by Mr. HOPKINS, one of the shareholders, who made the taking of his shares, and the payment of his arrears, an absolute condition of his withdrawing such opposition. Under these circumstances, on a day's delay in committee would have been fatal, a vote of the shareholders, agreed to take these shares upon their own account—leaving it open to such shareholders as might think proper to take a part subsequently in the expense and risk thereby incurred. An arrangement was also made with some opposing shareholders in the House of Lords, in virtue of which, the parties already referred to, engaged to provide a trust towards the payment of a part of their arrears, and to recommend to a public meeting the forfeiture of their shares.

There is no doubt that the large pecuniary sacrifice made by the individuals alluded to, with a view to carry out, in the most effective manner, an object of vital importance to the company, and expressly sanctioned at two successive general meetings of the proprietors, was a measure adopted for the general benefit, and to it must be attributed the accomplishment of that object—viz., the passing of the Act. The directors and committee being desirous of giving full effect to that part of the arrangement which alone depends upon the company, recommended that this meeting should unanimously approve of the directors' forfeiting a number of shares not exceeding 500. There is no reason to believe that the company will, upon the whole, be losers by adopting this course; inasmuch as, in addition to a variety of other considerations, the expense which would have been incurred by withdrawing the bill had session, and proceeding with it in the next, would, probably, have been greater than the loss likely to be sustained by the forfeiture of the shares in question.

The proprietors will, however, understand, that though the Act has passed, the operation of it must depend upon the formation of the new company. A prospectus of this the directors have now the pleasure to lay upon the table, and a copy of it will be sent to each proprietor. In compliance with the express recommendation of the committee of the House of Commons, and with a view to the advantage of the proprietors generally, the time for presenting to the directors their intentions as to taking shares in the new company has been extended to the 1st of November next, in order to facilitate the execution of the numerous and important operations that will have to be performed, the earliest possible announcement of such intentions is especially requested. By this sale of the property, the balance of the company's debts will be reduced to £5,000 absolutely, and, to pay this sum, it will be necessary to make calls, in addition to such amount of arrears as may be recovered from the shareholders in default; and these calls, they confidently believe (the full extent of liability being now ascertained), will be readily met by the proprietors. The directors propose to make a call of 1s. per share, payable on the 1st of November next, of which due notice will be given—and they hope and expect also to be under the necessity of calling for another 1s. before the month of May, 1844, for such balance as may be required to pay off the whole of the existing debt, before the expiration of another six months, when all the liabilities of the company will be discharged.

The CHAIRMAN also read the resolutions intended to be proposed, as follows:

1. That the report of the directors and committee be received.
2. That, in pursuance of the recommendation contained in the report, the directors do, and they are, hereby, authorized to forfeit any number not exceeding 500 shares in the company, on such terms as the directors shall think fit.
3. That the following gentlemen be appointed a committee, to concur with the directors in winding up the affairs of the company—viz., J. S. Browning, Esq., M.P., D. S. Chapman, Esq., S. H. Hoare, Esq., W. R. Kerr, Esq., S. Ricardo, Esq., J. A. Smith, Esq., M.P., J. A. Smith, Esq., W. A. Williams, Esq.

The CHAIRMAN said he had no doubt it would appear rather astonishing to the meeting that they had been able to obtain an Act of Parliament at so late a period of the session, which, he must say, was mainly attributable to the able management of their solicitor, and the valuable assistance received from persons interested in the prosperity of this large concern. It had been attended with certain sacrifices, which he would state, as some erroneous notions of their extent had got abroad. The first was as regarded 100 shares of Mr. HOPKINS, who opposed the bill in the House of Commons, and it having been found impracticable to carry the bill through the committee of that House, unless his opposition was withdrawn, he (the chairman) and some other gentlemen, who had deeply at heart the interests of the company, consented to take upon themselves the payment of the arrears due upon Mr. HOPKINS's shares, amounting to £10,000, and also to accept an assignment of the shares, by which the parties acting with him became responsible also for the future calls upon them. They had done this as individuals, on their own account, and not on account of the company, and they would not ask this meeting to indemnify them by voting any pecuniary payment. The company would not be asked for any vote at all in respect of Mr. HOPKINS's shares, but the parties who had taken upon themselves the past and future payments upon them, would leave it to those of the proprietors who approved of what had been done to contribute towards these payments. The other settlement reported about 500 shares belonging to Major Richardson and others; and, though he did not ask the proprietors for any vote in respect of Mr. HOPKINS's shares, he certainly did hope that this meeting, by passing the second resolution, which he had read, would approve of, and take upon itself, that settlement, and authorize the directors to carry it into effect, by forfeiture of the shares. He, and those who acted with him, had done all in their power to defeat the opposition of these parties, and it was with the utmost possible reluctance and repugnance, and to avoid the certain loss of the bill at that late stage of the session, with all the injurious consequences, which would hardly be overrated, that they had, at the last moment, consented to recommend to a general meeting to agree to a forfeiture of the shares which he had mentioned. He regretted that Mr. HOPKINS, who was so able to pay, had not acted with more liberality towards them, but, from their position, they were compelled to accept his proposal. With Mr. Richardson and the other dissentients they were advised to treat, both in the House of Commons and in the House of Lords, where, in the eleventh hour, they were called by their opponent (Mr. Austin) that their only chance of having the bill carried was to embrace the offer of these parties, or they would have to do the whole thing over again, with all its attendant and enormous expenses. With regard to the amount of £50,000, to be received of the new company, as it was not contracted to be paid before the 1st of December, a call would be made in November, which would enable them to make some arrangement for the liquidation of a considerable portion of the disbursements due in November. They had every reason to believe that a very large portion of these disbursements would be paid over to a future period. They would have in mind that it was essential that at least 15,000 shares in the new company should be subscribed for, and, as it was the opinion of the larger proportion that it would be their interest to join the new company, he hoped others would also have their part, by taking some of the remaining shares in the new company, for which, however, the time was limited to the 1st of November. Now, suppose their situation was, that 750, was paid on the shares, and that 150, was required to wind up the old concerns, that would be 900, per share; then, to take the new shares, suppose 150, were required to establish the new company, amounting to 100,000, would be required, in 50,000 shares, the whole of their liabilities would be the payment of 100, upon each share, for which the holders of a new share would possess one twenty-thirtieth part of the whole of the property of this company, and that under different circumstances from what had recently been—viz., without a call, or, at least, any debt but what the assets could meet, without disbursements, with a revival of trade, and good and effective management. With this prospect before them, and the capacity of making from 50,000 to 60,000 tons of iron per annum, he could not but see a great inducement for the old shareholders to enter the new company, as a means of retrieving their loss. He hoped, therefore, that many others would now come forward, and enable them to carry through the plan, and to enter upon the new undertaking with spirit. (Heard, here.)

The resolutions having been proposed and seconded, Mr. BROWNING said it was an obvious question whether the number of shares was 500 or 100, he had consulted others, and thought it best to be compelled to contribute towards the liabilities of others who were able to pay as himself. (Heard, here.)—Capt. FLEMING observed that, if they limited to those who were to be relieved by this settlement, they would find them to be the very parties who had brought them off their difficulties, to whom the directors were now saying—"we will let you off, and make the others suffer for it." (Heard, here.)

Mr. BROWNING, M.P., thought if gentlemen would only reflect on the peculiar position of that company, without at all meeting to attack the conduct of those gentlemen who had acted with liberality towards the majority, they must see that the plan of forfeiting their shares was the only method of bringing to a close the affairs of the old company. (Heard, here.) Looking at the new position of the session, he could see that the bill was not yet enough generally in the surprise, and if, at the present hour, certain members (not those he thought reasonable or respectable) were made, they had certainly proposed additional expenses, by the bill being postponed to the next session. He would ask, whether it was not frequently the case for directors to be postponed off, without consent to principle, when to do so

would be for the general good? As for, therefore, in his judgment, he must conclude that the committee had come to such a settlement with great discretion, and had done the best under the circumstances for the whole concern, and he hoped, on calm reflection, the meeting would not hesitate to confirm their proceedings. (Heard, here.)

Mr. HICKENS said he should like to know to what amount these gentlemen had been accommodated by forfeiture?—The CHAIRMAN said the company was not called upon to make any pecuniary sacrifices, independently of the forfeiture of shares. (Heard, here.) He understood the number of shares to be forfeited was about 400 belonging to the party called dissentients, and, without any wish to meddle with the affairs of others, he had been assured that many of these dissentients were not in a state to pay their calls, even if they were proceeded against. If they had done so, there would have been the consequent legal expenses, and, in consequence of non-payment, the litigation might be carried to Chancery, with the enormous expenditure attending that court, the whole of which was saved by the present arrangement. (Heard, here.)—Mr. HICKENS wished to know the actual amount that was due on the calls owing by these gentlemen?—The CHAIRMAN said about 10,000.—Mr. HICKENS said he thought also that the directors had acted with sound discretion in not throwing away good money after bad, and he was sure, had they not come to a resolution to forfeit the shares, there would neither be peace nor comfort for the new company. The directors had certainly pushed up-hill work, and now they had a reviving trade, and better prospects, he hoped the meeting would feel bound to hold the directors harmless for what they had done to obtain this Act of Parliament. (Heard, here.)—Mr. HICKENS asked if the forfeiture relieved from further liability upon the shares forfeited?—The CHAIRMAN said it was a question of law, but he understood it would have that effect.

Major RICHARDSON said that he had been working for them to try to succeed with such opposition and talent against them at the last hour; 300 of the shares were represented by Major Richardson, and 100 more by P. Richardson agent. These shares were recommended to be forfeited by Mr. Austin. The chairman of the committee of the House of Lords and Commons both expressed their opinions that a wise discretion had been exercised in effecting a settlement with their opponents.

A PROPRIETOR asked if there was any objection to give the names of the gentlemen who were to be relieved by this forfeiture?—The CHAIRMAN said not at all. If he strongly desired it, they should be sent to the worthy proprietor. The first resolution, that the report be received, was then carried unanimously, and the second resolution, for the forfeiture of not more than 500 shares, was passed by a large majority.—The third resolution, for the appointment of a committee, was then moved and seconded.

Mr. M'LAURIN said, as there were a large number of the old proprietors who had, at present, no interest in the new company, he thought they should have a voice in the committee, or their interests might be affected. (Heard, here.)—The CHAIRMAN thought, under these circumstances, they had better take power to add to the committee, which was agreed to accordingly.—Mr. BROWNING, M.P., thought the suggestion a very proper one.—The third resolution, with the addition of the words "with power to add to their number," was then passed unanimously.

A PROPRIETOR said, on the last occasion, the number of new shares subscribed for was about 500, and he wished to know the number at present?—The CHAIRMAN replied that there had been many additions to that number, and he hoped gentlemen would assist those who had brought it to that extent.—Mr. BROWNING, M.P., remarked that, if the 10,000 shares were not subscribed for, the whole affair must fall to the ground, and that their labour and expense would be thrown away.—The CHAIRMAN said he was happy to say that the price of iron had improved since the last meeting, and that, with the exception of Aberystwyth, they were working now at a small profit. (Heard, here.) At Aberystwyth they had reduced the works to one furnace, owing to the low price of iron and the heavy gauges, and they hoped, by a representation to the leasees, to get these gauges much reduced, so that they might work at a profit there likewise.

Mr. HICKENS asked if the small profit was after paying all charges on those estates?—The CHAIRMAN replied in the affirmative; and, in reply to a proprietor, said that they had not reduced their stock at the present low prices, but preserved it for better times.—Mr. S. RICARDO said there were also losses on other works besides.—The CHAIRMAN considered them to be very trifling.—Mr. BROWNING wished to know whether it was necessary that both the calls should fall due in November. He merely threw it out, because many might wish to enter the new company, but would not be able under these circumstances.—The CHAIRMAN observed that a deposit would be necessary for the new company, but the subject should be taken into consideration, as they wished to grant every alleviation possible. He was afraid, however, that the call could not be postponed.

Mr. JACKSON said that he wished it to be understood, that whatever overhauled remarks he had made on past occasions, he meant a thing personally offensive to the directors.—Major RICHARDSON made a similar observation, and said, as it might be the last occasion of his meeting the proprietors, he would do as an act of grace and justice to the honorable chairman, by moving a vote of thanks to him for his conduct on that occasion, which was seconded by Mr. M'LAURIN, and passed unanimously.—The meeting then separated.

DEAL PIER COMPANY.

A special general meeting of this company was held at the London Tavern, on Monday the 18th inst., to consider a proposal for extending the pier 500 feet beyond its present terminus. On the motion of Sir JOHN PEAR, Bart., the chair was taken by JOHN WHITTINGTON, Esq., late sheriff of London. Mr. HENRY JACKSON (clerk to the company) read the notice convening the meeting, and also the following statement of the plan for effecting the alteration proposed, as contained in a circular addressed to the proprietors:—

"A proposal has been submitted to the directors by Mr. William Bette to complete the pier by an addition of 500 feet from the present terminus, with a head 60.0 x 30.0, with convenient approaches for loading at all times of tide, for the sum of 75,000. Mr. Bette has further proposed to find the whole of the money, upon being guaranteed *pro rata* by the present shareholders, interest at 5 per cent. upon the 75,000, for a term of five years, and payment of 60,000, at the expiration of that period, he consenting to take the remaining 15,000, in shares. The guarantee thus proposed will not exceed a liability of 10s. per share upon the shares held by any of the proprietors, and will be proportionately discharged, if not actively covered, by the profits which may be reasonably expected to be realized from pier dues, when the work is completed as proposed. And even if the same as is to be realized should be insufficient, and the work prove a total failure, the guarantee will, in fact, be little more than nominal, inasmuch as the proprietors who sign the same will be secured from liability by being constituted mortgagees of the pier and the land and works thereto belonging, which, with the additional sum now to be lent to be expended thereon, must always produce when sold more than sufficient to pay off the amount proposed to be guaranteed, and which in any event will be applied for that purpose, before any proprietor is called upon to contribute any sum of money whatever towards the amount of the proposed outlay."

The CHAIRMAN said, the pier was almost useless at present, and that if its extension could be accomplished, it would be highly beneficial. He ascertained this year that nearly 4000 passengers had been landed, and a great many more would have been landed, had not the steam boats been from vessels in the Downs, if the pier had been more extended; and, after this, he had no doubt such an increase would be derived as would amply satisfy the interests of the money expended. As there was every prospect of this being so, and the money could be found easily, he hoped the proprietors would come forward to sanction the proposal.

Mr. MONTAGUE wished to know how much money had been already expended. Mr. JACKSON said about 15,000, and that nearly all the calls were paid up. The amount expended on the works had been about 10,000, and in the purchase of land about 5,000. There was but a small balance in hand. The liabilities were about 70,000, and there was about 10,000, additional to be paid for the franchise of the land.—Mr. MONTAGUE thought, before they committed themselves to this land they would have to pay this 10,000, and he, therefore, looked upon that as one of the liabilities.

In reply to a proprietor, the Clerk of the Company said, that the whole of the land proposed had been secured for the use of the pier, and he had no concern of its present value.—The JOHN PEAR, Bart., thought they would require all the land for the purpose of the pier.—Mr. MONTAGUE suggested they should not carry out their plan, and would then try to force the value of their land.—Mr. BROWNING thought, before they could enter to any proper understanding on the subject, they ought to have a regular survey of their own position as regarded business and assets, and every other particular up to the present time.—The CHAIRMAN and the

JOHN PEAR, Bart., said there could not be the least objection to the accounts being printed and presented to the proprietors. A motion to that effect was then seconded by Sir J. PEAR, Bart., and agreed to unanimously.

Mr. BIRCH had the greatest confidence in the integrity and skill of the directors, but thought a committee of five directors and four proprietors should be appointed to consult and treat with Mr. Bette on the best terms for the proprietors.—Mr. BAYNE seconded the motion, which was agreed to unanimously, and the following gentlemen were appointed:—Sir John PEAR, Bart., Messrs. Whittington, Oakley, Jackson, and Bette, directors; Messrs. Baggley, Robinson, Bly, and Montague, shareholders.

On the motion of Mr. BIRCH a vote of thanks was passed to the chairman, and agreed to unanimously, when the meeting was adjourned to the 10th Oct.

NORTHERN AND EASTERN RAILWAY.

A special meeting of this company was held on Wednesday the 20th inst., at the station in Shoreditch. The chair was taken by WM. MARSHALL, Esq., M.P., who stated that this was a special general meeting for the purpose of authorizing the directors to borrow a sum not exceeding 57,000, for the extension of the line to Newport. A resolution to this effect was drawn up, which he would leave to some gentleman to propose.—The resolution having been proposed by the CHAIRMAN and seconded by the DEPUTY CHAIRMAN, was passed unanimously.—Mr. MASTERSMAN (a director) said, he had the satisfaction to report that they had an offer of the whole amount, at 4 per cent., for five years, which they proposed to accept, subject to the approval of that meeting.—Mr. LAYCOCK wished to know if there was any necessity to raise the money immediately?—Mr. MASTERSMAN said, they had made such an arrangement that the interest would be no burden upon them till they required the money.—A PROPRIETOR would like to know of any information that the directors might possess as to carrying the line forward.—In answer to this, the CHAIRMAN requested the secretary to read two letters, one from the proprietors of the line from B. Wick to Brandon, who wished to know if it was the intention of the Northern and Eastern to go to Brandon, so that the line might be perfected from Norwich to London, in which a letter, dated the 6th of September, was sent in reply by the directors of this company, stating that they intended to go on from Newport to Cambridge, and from thence to Brandon; and that a special meeting would be shortly convened on the subject, when a resolution for extending the line to Brandon would be proposed. (Heard, here.)

The CHAIRMAN said, that as to the extension, they had instructed their engineer to make a survey of the line—that was, from Cambridge to Ely, on to Brandon.—Mr. LAYCOCK asked if it was to be a single line of railway to Cambridge?—The CHAIRMAN said, he thought the worthy proprietor had better wait till they had full information to present to the shareholders.

A PROPRIETOR wished to know what the average cost would be for a double line to Cambridge?—The CHAIRMAN replied, that they could not exactly say at present. The line towards Cambridge was difficult, but the line north of Cambridge was likely to be a very easy country, so that it would be brought to a low average.—Mr. MASTERSMAN said, that the line from Cambridge to Brandon would be one of the cheapest lines in the kingdom.

Mr. BROWNING (resident engineer) said, that some part of the line between Newport and Cambridge was difficult, but for six miles on this side of Cambridge there was but little difficulty.

A PROPRIETOR wished to know when the Hertford branch was to be opened?—The CHAIRMAN said, certainly in the first week of November.—Mr. KENNARD (a director) said, before the meeting separated, he would call the attention of the meeting to the map in the room, where they would see the course they had chosen, and he hoped they would agree with him that the consequences of it were very encouraging, when he stated that the average weekly receipts since the 1st of July, were 17,444. He thought they might now congratulate themselves that the views held out were in a fair way of being realized to more extent, and he had no doubt they would be ultimately realized to the full extent. They might be a little deferred, that was all he believed.—The meeting then adjourned.

THE THAMES TUNNEL.

This great national undertaking having been completed, it stands forth a monument, not only of the science and perseverance of the engineer, Sir I. M. Brunel, but of the spirit and enterprise of the country. It may not be uninteresting to our readers to consider, in this place, the circumstances which gave rise to its formation, the difficulties which occurred in the course of its construction, and the expense incurred in working out the project. It would appear that the immense traffic carried on by various mercantile concerns below London Bridge, suggested to the minds of many intelligent engineers the desirability of constructing a communication from shore to shore, for the purpose of affording the necessary facilities to carry out the traffic in question with greater convenience to the parties engaged in it, particularly as regarded the saving of time, so important an ingredient in the commercial and mercantile affairs of this great metropolis. From the number and magnitude of the shipping constantly passing on the river, a bridge was out of the question, and the only plan that could be resorted to that would be free from objections on the ground of injury or inconvenience to the navigation of the Thames, was a tunnel under its bed. It seems that in 1799 a project was put forth for the formation of a tunnel at Gravesend, but the scheme was soon abandoned. In 1804 an attempt was made to construct a tunnel from Rotherhithe to Limehouse, and although a drift-way was carried under the river to the extent of 925 feet, and within 150 feet of the opposite shore, the work was abandoned, owing to difficulties that had occurred, and which the engineer declared at the time to be insurmountable. The plan of a tunnel under the river was, however, always looked upon as a matter of deep interest and great importance, and when Sir I. Brunel, in 1824, exhibited his plan for constructing one with a double and capacious roadway, it was not only well received, but liberally supported by men of the first rank, both as regards station in society and attainments in science. No one seems to have given it more cordial assistance than the Duke of Wellington, who was amongst the original subscribers to it. His Grace described it as "a work important in a commercial as well as in a military and political point of view," and added, "that there was no work upon which the public interest of foreign nations had been more excited than upon this tunnel." The spot selected for the formation of the work in question—namely, from Rotherhithe to Wapping—was considered to be the most desirable, not only as regarded the traffic in the immediate neighbourhood of the tunnel, but also as related to the neighbouring countries. An Act of Parliament having been obtained on the 24th of June, 1825, and 180,000, having been raised by means of shares, Sir I. Brunel, the engineer, began his operations; but it was not until the 1st of Jan. 1826, that the shield by which the tunnel was to be worked was placed at the bottom of the shaft formed for its reception. The double archway of the tunnel was then proceeded with; but, on the 25th of the same month, the stratum of clay through which the work was being carried forward broke off abruptly, and for six weeks the shield was left open to a considerable influx of land water. The consequence was, that the progress of the work was much impeded. However, on the 11th of March following, the break in the clay having been passed, the work was proceeded with, and by the 30th of April, 1827, the tunnel had extended 490 feet under the river, and was fully and substantially completed with brick-work. In the month of May, 1827, and again in January, 1828, the clay broke in, and great apprehensions were entertained that this unprecedented undertaking must be abandoned. When, however, the chains in the bed of the river had been fixed up with logs of clay, and the water in the tunnel cleared out, it was found that the structure was in a perfectly sound and satisfactory state. These circumstances, however, and the entire expenditure of the capital of the company, prevented the work from being proceeded with until the year 1835, when a grant of public money was made by the Treasury, through the East India Loan Commissioners, to the company to complete the undertaking. The work was then proceeded with, and the result is the perfect completion of the tunnel, which is 1,300 feet in length. The time occupied in the execution of the work was about nine years. The actual tunnel was completed in eight years. In addition to the 130,000, expended by the company, the Treasury has advanced 270,000, making the total cost of the tunnel, up to the present amount, 400,000. The earnings may be seen here yet to be formed, and it is estimated by Mr. Walker that the cost of these drains will amount to 130,000, or 140,000, more. So that when the tunnel is perfect in all its parts, its total cost will be somewhere about 530,000. It appears that the revenue from the tolls for foot passengers for the present year are estimated at 15,000, and that the average for future years is estimated at 18,000, and this, with the tolls upon cargoes, when the days are formed, is considered likely to give not only to the proprietors a return on their capital, but also to the Treasury for the grant advanced on the part of the public. How this may be, time will show, and with this brief notice of this truly extraordinary enterprise, on leave the reader in the hands of the public.

Small boats of the river, consequently that to length equal to the diameter of antiquity, have been found to diminish.

ELIGIBLE OPPORTUNITY FOR THE INVESTMENT

OF MONEY, and the Purchase of an FREEHOLD ESTATE, in the fertile Parishes of Milton Abbott and South Sydenham, Devon; together with the valuable LEAD AND COPPER MINE, called WHEAL CONCORD.—TO BE SOLD BY AUCTION, by Mr. DANIEL WARD, at the Queen's Head Inn, in Tavistock on Friday, the 18th Day of October next, at Four o'Clock in the Afternoon:—

Lot. 1.—The Fee Simple and Inheritance of and in all that excellent Estate called

WEST WOODCOCK, WOXNADA, COLFORED PARK, and COLFORED MEADOW, situated in the fertile Parish of South Strydomham, in the County of Devon, comprising an excellent Farm-house, with all requisite Out buildings, and about 100 Acres of very superior Meadow, Orchard, Pasture, and Arable Land, now in the occupation of Mr. James Clark, as Tenant, under a Lease at the clear Rent of £110, but lately reduced to £100 per Annum.

In this estate the valuable mine called WHEEL CONCORD was lately worked. It was commenced upon the discovery of a large and very kindly Iron and glass

indicating copper, and at a shallow level a very rich course of lead ore was discovered, from the sale of which upwards of \$10,000 was realized. Some kindly copper workers was found in these workings, and from all the indications, very experienced mining agents are of opinion that this lode, which is a continuation of the

terprising north, in stony ground, and extending through this estate upwards of 100 acres, will produce not only similar returns of lead ore by extending the present levels of the mine, but that at greater depth copper ores in considerable quantity will also be found. The mine was abandoned about two years since, in consequence of disputes between two companies of adventurers, not at all affecting the rights of a purchaser of this valuable property, who, as owner of the freehold, will be entitled to reclaim the mine to be immediately worked by the present association.

to grant a new bill thereof, and every particular as to the workings, process and progress of the mine, may be obtained on application to the late...

Lot 2.—The Four Stables and Inheritance of and in all these Two Fields of rich arable Land, called SHORTEBURN PARKS, situate in the extremely fertile parish of Milton Abbott, in the same County; comprising about 24 Acres, with a good Cottage, Stables, and Stable thereunto, for the several occupations of Years, Poultry, and Gadgennage, as Tenants at Will, at a most Rental of 400 per Annum, and Possession may be had at Lady Day next. Both these Lots are well advantageously situated in Berkshire.

obtained within a short distance, and the excellent Market Towns of Tavistock and Lanchester are distant from each Estate, the former about Four Miles and the latter Seven Miles. The Towns will show the several Lots, and further particulars may be obtained on application personally, or by pre-paid Letters as to Lot 1, at the offices of Mr. Smith, Solicitor, Callington; and as to both lots, of Messrs. Brimingham and Smee, Solicitors, Church-lane, Tavistock.

Dated Gloucester, 18

NOTICES TO CORRESPONDENTS.

* We shall next week give another ENLARGED SHEET, which will embrace vast body of valuable information on every subject connected with commerce and science. We hope this announcement will prove satisfactory to numerous correspondents whose communications are unavoidably postponed.

PAID AND IRON DISTRICTS IN THE UNITED STATES.—We had prepared a second article on this subject, but are compelled to postpone its insertion until our next, when we hope to be in possession of additional information.

are indebted for the cuts accompanying Mr. Armstrong's paper on the Hydro-Electric Machine, in another column, to the *Philosophical Magazine*.

received.—"R. W. C." A Friend to Improvements.—"W. E. C. (Derby)."—Jeremy Drudge.—"F. E. W." Paris.—*Railway Contracts in France.* [This pamphlet, which contains much valuable matter, will be noticed in our next.]—"T. J." (Liverpool).—T. Smith.—T. J. Martin.—B. and S.

Notices to Correspondents are unavoidably omitted.

THE MINING JOURNAL,
Railway and Commercial Gazette.

LONDON, SEPTEMBER 23, 1843.

* Persons desirous of ordering the *Mining Journal*, can do so, either direct to the office, or through any of the numerous booksellers in the country. Notices of irregularity in its delivery are requested to be forwarded to the office, where every endeavour will be made to rectify the cause of complaint.

We have been induced this week to remark at some length on the "doings" of Ald. THOMAS WOOD, whose connection with the Blacker Coal and Iron Company has inflicted so much injury on the shareholders, and tended to bring into discredit the office of alderman and Magistrate of the city of London; while the possi-

of its election in Lord Mayor on Friday next imposes upon us the necessity of placing before the livermen of London a round unvarnished tale, founded on indisputable evidence, whereby they may judge of his claims to their support. In devoting the necessary space effectually to secure our object—that of embracing a comprehensive view of the "doings" in this company, from its origin in connection to the present time, we felt that we ought not to encroach on our columns, or displace other matter of more lively interest, and have, therefore, enlarged our present Number, which,

the same time, furds the opportunity of giving insertion to
 several articles, which must, otherwise, have stood over.
 It will be seen, from the report inserted in our Supplement,
 on grounds on which we have advanced the opinions put forth
 from time to time with reference to this nefarious scheme and its
 excoctors, while one or two new facts are, we believe, for the first
 time made known to the public. The deductions we have drawn
 from our concluding remarks, as well as the facts conveyed in our
 reductory observations, will, we think, be considered of so con-
 siderable a nature as to cause the learned Alderman well to ponder on

policy of the course we understand it to be his intention to take, case that he should, although returned as one of the two aldermen by the livery (?) in the Hall, on Friday next, be rejected by a Court of Aldermen.

That such will be the case, we believe, little doubt exists in the minds of those best informed, and hence the determination, as we advised, on Abi. T. Wood's part of appealing to the livery by sending a poll. That he must be unsuccessful on such appeal, we feel satisfied for there exists too much honest pride on the part

the lively of London, to return as the Chief Magistrate of this great commercial city a man whose conduct has been declared by the Court of Queen's Bench as "incorrect and suspicious," and who, after an investigation by his peers (the Court of Aldermen)—who are not all immaculate—is considered as not having established

which should entitle him to an acquittal at their hands. It is unnecessary to dwell on the subject in this place, as we have expressed our sentiments in another column. Yet we cannot pass by the opportunity (the last, we hope, which will present itself) of impressing on the livery of the city of London the cry they owe themselves of rejecting a man whose conduct is not so characterized as suspicious, but who has been branded by the

and civic authorities, as well as by the press, and, we believe, in common consent, by the public, as one who reflects discredit on the bench of magistrates—to a seat on which he is entitled in capacity as Alderman.

his talents—for that he possesses them is, we believe, generally
 admitted—in his vocation as a solicitor, and thus withdraw from a
 place which is not honoured by his presence, and where, if he pos-
 sessed the least spark of proper feeling or sensitiveness, he must
 feel himself to be an intruder. If he pursues this course, we
 will consider we have “done the state some service,” while, by so
 doing, it may serve as a beacon to those who would follow in his path.
 In conclusion, we have only again to impress on the *Ivory* the ne-

of reasoning themselves from any charge which might be
 of apathy or disregard of their civic rights, as well as the char-
 of the corporation. If they do this, the result may be re-
 forested.

We have before us the returns made of shipments of coal from Newcastle and Durham to London, for the eight months ending gust last, as compared with the like period in the year 1942, in which we find that there has been a decrease of 50,517 tons—quantity imported in the eight months ending August, 1943, 1,600,440 tons; and that in 1942, 1,650,957 tons.

was distinguished in itself sufficient to excite attention, and he must be for the depressed state of the coal districts in the north; such reduction is insignificant, when compared with the retrocession for the month of August in the respective years. We find that in August, 1842, the quantity imported amounted to 437 tons, while that of last month was only 206,426 tons, being a decrease of no less than 55,574 tons in one month, nearly one-third. If to this serious decline, which may be

is measure be attributed to the adverse gas by the med-

land counties in the introduction of coal to the London market, we add the injurious effect produced by the tariff—which, while it afforded encouragement to the import of foreign ores, imposed a duty on the export of our coal—the position in which the colliers in the north are placed is not only to be lamented, but, we fear, without an alteration takes place in the tariff, must in a great measure tend seriously to affect the mining interest in the north.

A correspondent of our contemporary, the *Gateshead Observer*, in treating on this subject, observes with much truth and force—

"It is now verging on a year since this ill-considered measure became law; and I am very sure that the miners of these two counties have not wrought for more than one-half the money they were enabled to earn previous to the re-imposition of the duty, and, as a matter of course, the shopkeepers and other tradesmen have suffered a diminution of profits in proportion. It does appear, therefore, very curious that they should sit, or rather stand, with folded arms, and not stir themselves in this matter. What I would wish to see done is, that public meetings should be called at all important towns, through requisition to the mayors, to transmit memorials to her Majesty or her Ministers, for the total and entire repeal of the obnoxious tax."

We fully concur in the view taken by the writer, and would, further, call upon the Lord Mayor of London (whether the present, or in perspective), and the Courts of Aldermen and Common Council, to lend their aid, by presenting petitions to the legislature on the meeting of Parliament, to repeal this "obnoxious tax." There was ample evidence afforded during the late session to convince Ministers of the extent of injury sustained by this measure, but the response was—the tariff has not yet had a fair trial; and it will only be when the resources of other countries are developed, and the working collier takes refuge in the "union," that Ministers will discover their error, and attempt to repair it, when too late to be of benefit to the colliery owner or to the operative collier.

It will be seen by a report in our columns of to-day of the proceedings at a special general meeting of the shareholders in the British Iron Company—convened for the purpose of receiving a report from the directors upon the passing of the Act of Parliament, confirming the disposal of the company's property, and to sanction the arrangements made to accomplish the passing of the Act, and further the measures necessary to be adopted for the payment of the liabilities of the company, and the appointment of a committee to assist the directors in winding up the concern—that the proceedings closed in a manner which was creditable to all parties concerned. Having given a lengthened report containing the principal features of the meeting, we do not deem it necessary here to recapitulate them; but, while we congratulate the shareholders generally (whether those who have taken an interest in the new undertaking, those who retire, or even those whose shares have been graciously forfeited) on the happy result terminating, we hope all questions at law or equity, we cannot do otherwise than offer some passing remarks on the present position of the company.

It will be in the recollection of our readers, that the large sum of 600,000*l.* was named as the purchase-money of this property, from which we believe 50,000*l.* was thrown off by Mr. ATTWOOD. Iron was then at a price more than double that of the present day, and it was considered a good bargain, taking the representations as to the value of the mineral property secured by the company as correct. The legal squabbles which have taken place, and the injury sustained by the company, are too well known to require more than mention on the present occasion. Happily, they are at an end, and arrangements of an amicable nature having been arrived at, the only point to which attention should be directed is the best means of rendering the property profitable to the new shareholders, by unity of action, aided, as there is every prospect before them to hope, by an improved state of the iron trade.

We find that nearly a million and a half sterling has been expended for the purchase and in the outlay on the works possessed by the company (of which we purpose giving a description in an early number), while the new shareholders will come into a participation of the advantages calculated upon from so large an outlay, at a sum little exceeding one-eighth of the amount, or 200,000*l.*

That the majority of these shares will be taken by the old shareholders—or, at least, such as possess the means of doing so—there can be no question; while the new shareholder, who now, for the first time, embarks his capital in the British Iron Company, will derive all the advantages to which those were entitled who have already subscribed eight times the amount. It is somewhat curious that the old company should have been formed when iron was at its maximum price, while this arrangement has been effected at a time when it may be said to have been at its minimum. There has been a considerable advance and improvement in the market since, and we believe the works of the company are not in so bad a position as many iron-works we could name, as, with the exception of Aberystwyth, the company is working at a small profit. We believe about 7500 shares have been subscribed for; and it is confidently expected that the remaining 2500 will be promptly taken up—several shareholders having awaited the result of the meeting of Tuesday last, ere they determined on the course they would adopt.

KYMER AND LEIGHTON'S PATENT FOR THE USE OF ANTHRACITE ON BOARD STEAM-VESSELS.

We availed ourselves of the opportunity politely afforded us, on Saturday last, of inspecting her Majesty's steamer, the *Hydra*, 750 tons burden, in which Messrs. Kymmer and Leighton's apparatus for using anthracite as fuel has been placed, and we readily avail ourselves of the information we acquired on the occasion, as well as that derived from actual observation, in placing before our readers such details connected with the patent as we consider of interest.

The *Hydra* is a very fine war steamer, of 750 tons burden, propelled by two of Boulton and Watt's engines, of 110-horse power each, and the arrangements made for applying the patented apparatus appears to us to be most complete, as it is, in like manner, substantial. The blast is thrown in from two fans, suspended from one of the deck beams in the top of the engine-room, and conveyed through strong iron boxes to the fire—a large portion being thrown into the closed ash-pit to keep up the combustion of the fire, while a smaller portion entering by the fire-door, which is closed, as is to distribute the air, supplies oxygen to consume the artificial gases given off from the fire. The fans are each three feet in diameter, and eighteen inches wide, having a disc revolving in the centre; the fans, or boards, are eighteen inches wide by nine inches deep, which is the area of the air-box from each fan, and which meet in one main, eighteen inches square, ultimately distributing the air in equal portions to the six fire-places—the number used in the boiler. The fans make little more than 550 revolutions per minute, a sufficient blast is kept up, without the disagreeable "humming" noise which attends the use of fans in ordinary cases, more particularly when an attempt is made to regulate or compress the air. Many important advantages must result from the use of fans on board steamers, as it renders the upright funnel unnecessary. No draught is required, but merely an escape for the exhausted and heated air—and which may be conducted in any desired direction, so as to pass over or along either side of the hull; by this arrangement steam ships may be equally well rigged, and rendered capable of using their sails to as great advantage as ordinary sailing vessels. Another desideratum viz.—increased speed, would be supplied by the less resistance to a head wind, offered to a ship without the "swooping funnel," whilst at the same time the uniformity of the draught produced by the fans does not keep up steam much more effectively than the constantly varying and unsteady draught created by the upright funnel, particularly in inclement weather, when in consequence of the vessels pitching or rolling heavily, it is found a matter of considerable difficulty to maintain an efficient supply of steam. There are only two objections urged against these arrangements—first, that the lowering of the funnel in a heavy sea will throw the water out of the troughs, and when that water becomes increased upon the sides of the troughs would strike the "water ways," but as a diversity of opinions exists on these points, and the objections are purely theoretical, the

trials about to be made with Her Majesty's ship *Hydra* will best decide the question.

The theory of Messrs. Kymmer and Leighton's process as patented is, that ignited carbon possesses the property of decomposing steam in its passage through it, whilst both the elemental parts of the steam (oxygen and hydrogen) combine with it, and produce the highly inflammable gases, carbonic oxide and carburetted hydrogen; these escaping from the fire receive a supply of oxygen, which, rendering the mixture still more inflammable, ignites, keeping up a steady stream of unbroken flame within the flues of the boiler. Any fuel may be applied, but in our opinion anthracite will ever prove the most effective and valuable; and being nearly pure carbon, in a highly compressed form, great advantage must arise in saving of stowage; and further, as no bitumens or gases enter into its composition, no smoke can be produced under any circumstances. Neither is it liable to spontaneous combustion, while it is also found to bear transport better than any other coal—a property consequent upon its hardness. Indeed, should it become broken or even reduced to dust, it may in this state be used in Kymmer and Leighton's furnaces, the only thing required being efficient lumps to keep the grate covered, so as to form a substratum or bed for the small. With the ordinary furnace and the common method of burning anthracite, it makes for a time an intensely hot fire, which of course generates an abundance of steam; but as the lumps of coal consume, which they do superficially, they become so closely wedged together that the supply of air becomes exhausted, or at least so far diminished, as in a measure to reduce the combustion and consequent generation of steam. To obviate this difficulty, it is necessary to apply some means to increase the draught; but our readers must be aware that with common bars the use of a blast is altogether impracticable—for so intense does the fire become, that in two hours an entire set of fire-bars would be destroyed. By the admirable contrivance of the patentees, the water-troughs being placed in contact with the grate-bars, they are preserved, and steam is at once supplied to the fire; this supply of aqueous vapour has the effect of converting the intense fixed or local heat of a carbonaceous fire into a volatilised or gaseous form.

Numerous engineers of eminence dispute the decomposition of water by igneous carbon, and contend that a waste of heat must ensue on the application of water; yet, again, we know that the theory and application of it have been sanctioned and approved by some of the most eminent practical chemists of the day—so far, experience appears to be in its favour. We are also aware that some engineers condemn the use of a fan on board steamers, simply on the plea that they have tried them without success. We recollect that some time since a method of burning anthracite on a somewhat similar principle was patented by Messrs. Lejeune and Chambers; by this, it was proposed to throw a jet of steam into a partially closed ash-pit. This application having been found to answer with steam at high pressure, it was introduced into her Majesty's steamer *Phaëton*, when it was found not to answer, either from the steam being used at a low pressure, or some other cause, since which we have not heard anything further of the patent; but, from all we can ascertain, it proved a decided failure. We understand the *Hydra* to be on the eve of leaving, if she has not already left, her moorings for Portsmouth, on an experimental trip, and we hope, in our next, to be able to report on the success so confidently anticipated by the patentees.

AUDLEY MINES, COUNTY OF CORK.

We last week adverted to the forthcoming sale of this property, but space on that occasion would not permit of entering into detail—while it was our desire, in directing attention to the large extent of proved mineral ground "in the market," to have also offered some observations on mining in Ireland. The latter subject, however, must needs stand over another week, when we purpose giving the returns of the several mines for the past five years, and thus demonstrate the value and importance of the mineral districts of Ireland, which may be considered as principally maiden ground; for, although the copper mines for the years 1839, 1840, and 1841 produced 62,230 tons, at an average price of 7*l.* 4*s.* 3*d.*, making in the aggregate amount 466,181*l.* 4*s.* 6*d.*, comprising the produce of ten mines (the whole number at work in the Sister Isle), yet it is to be considered that two of them, viz. Knockmahon and Allihies—the latter in the locality of the Audley mines—produced 38,954 tons, which yielded 319,104*l.* 18*s.*, or more than three-fourths, of the remaining eight, four produced 23,276 tons, or 75,244*l.* 17*s.*

We have given these figures, to which we shall, on the present occasion, confine ourselves, simply to show that Ireland possesses mineral wealth, which requires only spirit of enterprise, with good management, to afford to the capitalist and adventurer a fair return for the risk incurred, and which is ever attendant on mining operations, whether at home or abroad. The mines of Cuba and Chili, it is notorious, returned in twelve months a profit amounting to nearly 200,000*l.*, and these returns were from three or four mines alone. The county of Cornwall furnishes copper ore to the amount of 1,200,000*l.* per annum—while Ireland, it will be observed, from the figures we have quoted, does not raise more than one-ninth, and of this quantity two mines alone produce three-fourths, or upwards of 100,000*l.* per annum. This, in itself, affords conclusive evidence of the value and importance of the mines of Ireland—while the comparison with other colonies, or districts, is such as must at once be deemed the most convincing proof that the country is neglected, and requires only energetic measures and capital to secure to it that standing in the mining world which would give to the peasant labourer, to the smelter, merchant, and manufacturer, increased business—and to the adventurer a fair, and, we think we are not going too far when we say an ample, return for his investment. We must, however, defer further remark on this subject, as treated generally, and confine ourselves to the mines under notice, and thus fulfil the promise given in our last. It appears that these mines, comprehending an extent exceeding 5500 acres (our figures last week, we find, were incorrect), are held, we may say, at a poppet-stone, or nominal rent, and hence the absence of all charge of royalty, or dues—while, if taken at a twelfth on the returns of Irish ore alone, would amount to upwards of 10,000*l.* per annum; this is an important consideration, and calculated to attach an increased value to the property, which is held under lease for a term of fifty years and upwards.

We have already stated, in our former notice, that the property is divided into twelve lots, ranging from 150 acres, or thereabouts, to 950 acres, and embracing the ore of copper and manganese, with vast quantities of slate and freestone, the several properties being contiguous to water communication. From the reports which have been submitted to us (including those of Richard Griffith, Esq., F.G.S., Mr. Adam Murray, Esq., John Munday, and the analyses of the ore made by E. Davy, Esq., Prof. Apjohn, and R. Griffith, Esq.), it appears that the extreme depth to which any shaft had been sunk was at Cappagh, where they had reached to eighty-four fathoms. The next deep shaft, at Horse Island, we find, does not exceed forty fathoms, which is insignificant when compared with the working of mines in Cornwall, or even Ireland, if we are to judge by the Allihies, or Knockmahon Mines. The produce of the ore is given, as yielding on assay, 25*l.* per cwt. of copper; and it is stated, in the report of practical working miners, that the ore is found to improve in quality and produce as the workings are deepened. At Horse Island the lode is reported as producing ore near surface, yielding 20 to 60 per cent. of copper. It is stated, with reference to this sort, that 250 tons of copper ore had been extracted, which had realized 2000*l.*, thus affording evidence of the richness of the lode, although not of that produce which the ore is said to have yielded on assay—the actual sale and quality being, in our opinion, the safest criterion.

Several lodes, it appears, have been lately discovered, but we are not aware that any workings have been prosecuted. The manganese found on the estate is represented as being of inferior quality to that obtained in Cornwall, as containing less oxygen—the chief and great value being in a pigment, and for which purpose it is of considerable value, more especially when compared with the price at which it is stated that it can be shipped, not exceeding a few shillings per ton.

The slate is said to be of superior quality, and, from the vicinity of the quays in the shipping port, may be put on board at a comparatively easy rate; it is admirably adapted for building purposes as well as slates. The quantities of sale are far too minute to admit of our following them in detail—and, with this brief notice, we leave the mines (so ably the works of the advertisement of the *Master in Chancery*) to "the highest and fairest bidder," while we hope, that by a judicious policy, and with honest and economical management, Ireland may thus add to her means of affording employment—and advance the interests of Great Britain, of which she forms so important a portion.

ORIGINAL CORRESPONDENCE.

STATISTICS OF THE HYDRAULIC RAILWAY.

TO THE EDITOR OF THE MINING JOURNAL.

SIR,—A letter from Plymouth appeared in your impression of the 9th inst., signed "A. H. B.," in which the writer calls upon me "further to explain the economy of the hydraulic system." He proposes several questions; in the principal one, he requests me "to take several miles of railway, in which the works are of ordinary character, and estimate the average saving per mile." I esteem myself peculiarly fortunate in being enabled to lay before "A. H. B." and your readers generally, excellent data on the formation of the Great Western Railway from London to Slough—at the same time, I must request it may be distinctly understood, that, to institute a proper comparison, and to contrast, with full effect, the difference in the cost of a railway constructed for hydraulic propulsion, with that of one to be worked by steam locomotion, I ought to be able to produce data (which, I regret to say, I am not) on the formation of a railway through some difficult piece of country, such as that of the Manchester and Leeds through Todmorden, Vale, or as that of some portions of the London and Birmingham, particularly in its northern direction. I shall say everything in one word, to scientific men, when I state that the country is so flat and easy between London and Slough, that if that part of the Great Western which crosses it, had been constructed for hydraulic propulsion, the general gradient, where any was required, would have been only from fifteen to eighteen feet per mile (1 in 293 to 1 in 339); whereas, by lowering the working speed about one-third, my system is fully capable, when propelling a train of the load of forty tons, of overcoming inclines of 1 in 20, or 264 feet per mile—a steepness of ascent which does not, and cannot, exist on the present steam locomotive system. Hydraulic propulsion will even overcome much steeper elevations, either by further lowering the speed, or (without altering the bore of the pipe) increasing the amount of hydraulic pressure. This I have already publicly advanced, and it has not been questioned—probably, never will. The force, or lifting power, of water, as exemplified in the hydraulic press, appears to be too well known to allow of the hydraulic power I claim being made matter of public discussion, through the journals, before the scientific world.

I now beg to state the leading features of the Great Western Railway between London and Slough. The distance is eighteen miles. There is no cutting deeper than thirty feet, nor embankment exceeding twenty, except at the River Brent, which is crossed by a viaduct, seventy-three feet above the river Brent. The cuttings are clay and gravel; width at the line of rails thirty-five feet, and slope generally 1½ to 1. The quantity of earthwork executed between the two above-named places is 837,000 ± 10 = 46,500 yards per mile, and the average price of forming into embankments was 1*s.* 3*d.* per yard. The average gradient is about four feet per mile, and the railroad crosses the Grand Junction Canal twice, leaving clear head room of about twelve feet. There are sixty-eight bridges and culverts of brick and iron, erected on this portion of the railway, at an expense, upon the average, of 350*l.* each.

Now, had my system of propulsion been then before the public, and the Great Western Railway, at the time of its formation, been planned for its adoption, the line, for fourteen miles out of the eighteen between London and Slough, would have followed the natural surface of the ground, allowing for small irregularities, and the other four miles would comprise low cuttings and embankments, in no case exceeding a depth of ten feet. In fact, the formation of the line would have precisely resembled the ordinary operation of making a turnpike road over favourable and slightly undulating ground. Taking into calculation the quantity of earthwork necessary for approaches of bridges, as well as the general construction of the line, from 500,000 to 600,000 yards would have required excavating in this distance, which, being all in short cuttings and embankments, would have been as profitably undertaken (considering the much-reduced amount of loading) by the contractors at 1*s.* per yard, as the works of great magnitude and length which they contracted for, were at the average of 1*s.* 3*d.* The earthwork, therefore, on this portion of the line (notwithstanding that required for approaches to the numerous bridges), would have been reduced in the proportion of 3 to 7, and the cost of excavation, on this smaller quantity, in the proportion of 4 to 5.

As respects the bridges, it is evident that, with the hydraulic system, no heavy bridges would be required; for, by adopting the gradient to the locality of roads and rivers, we should simply require apertures of dimensions similar to those upon common roads—in fact, no larger than were requisite to admit through them the trains of carriages and horse-horse passing along each line of rails. Bridges of the simple and inexpensive character used upon the Bristol and Exeter line would be immediately adopted for the system—viz., of brick or stone piers, and timber (instead of the usual arch) to cover the opening. Such bridges would be fairly estimated at 350*l.* each.

It would form no correct criterion of the saving to be effected, in respect of the rails, by the hydraulic system, if the peculiarly formed rail of the Great Western were brought into the present estimate, as it may be considered as an exception to the T rail, which, in its several modifications, is most usually adopted. Now, the T rail may be taken at an average of 75*l.* per yard, and I believe it will be admitted, it might be economically substituted by a rail of 45*l.*, if the ponderous locomotives and their tenders could be dispensed with on the line; such being the effect of the hydraulic system, I will save 30*l.* of iron every yard of rail, and also a corresponding weight in the chairs and keys. As, however, the chairs are cast metal, I shall call the whole saving (taking it all at the price of wrought-iron) only 25*l.* per yard, and I shall, in a similar manner, estimate the rails, chairs, and keys, as now laid on the line, as equal to 30*l.* of wrought-iron (or its value) per yard, and I shall place the rails at the moderate price of 6*l.* per ton.

The preceding data enables me to show, so far as regards the three important items of earthworks, bridges, and rails, the first cost of a railway eighteen miles in length, of the character of the Great Western between London and Slough, when constructed for steam locomotion, and to compare that first cost with the amount which, on the hydraulic system, must have been expended for the same purpose.

FOR STEAM LOCOMOTION.—Earthworks, 837,000 yards, at 1*s.* 3*d.* £83,700 0 0
Bridges, 68, at 350*l.* each 23,800 0 0
Rails, 68, at 75*l.* each 5,100 0 0

Total cost for steam locomotion £112,600 0 0

FOR THE HYDRAULIC SYSTEM.—Earthworks, 46,500 yards, at 1*s.* £4,650 0 0
Bridges, 68, at 350*l.* each 23,800 0 0
Rails, 68, at 45*l.* each 3,060 0 0

Total cost for the hydraulic system £31,510 0 0

Hence on this piece of railway, not adapted to develop the power of hydraulic propulsion to overcome the obstructions and elevations of a difficult country, it appears the system would be fully capable of effecting a saving in the three above items of 104,090*l.*, being at the rate of 3790*l.* per mile.

But to complete this comparative estimate, other important items must be added. On the hydraulic system no further cutting, nor other work, would go to swell the capital account (or to reduce the dividends) for repairing side in deep embankments and cuttings, for re-balancing, for lengthened periods, the continued subsidence of any embankments, or to repair the drains, culverts, and culverts, contingent on heavy works. When all these matters are taken into account, I think it will be allowed by most practical men, and among them by "A. H. B." (for I presume he is a member of that highly respectable body), that I am considerably under the mark, when I place in favour of the hydraulic system the sum of 7000*l.* per mile, as according to the formation and consideration of the line in the case in question; and I dare say it will also be generally admitted, that this sum would frequently be doubted, when, what is termed a difficult country had to be encountered. It will be observed I have not taken tunnels into account. There are grand ideas, and new wonderful instances of what intellect and energy, aided by labour and perseverance, can accomplish; but what are they after all, but nearly interminable realities, which frequently have cost several lives in their formation, and consumed the value of a nobleman's patrimony in effecting their completion. I will not in this letter go further into the question of their cost; it cannot be a gratifying subject. I will merely add that these "necessary evils," appertaining to the steam locomotive system, could never be required in the hydraulic; its powers of ascending, with facility, extremely steep inclines, and then winding round, roundabout curves, puts them totally out of the question. This portion of the subject of hydraulic propulsion I have worked out considerably since I published a pamphlet on the invention last year. See my letter in the *Mining Journal* of March 11.

I must now say a few words on the expense of laying down the hydraulic working apparatus on a line of railway. "A. H. B." states that in the case I have published, he has estimated it at 7500*l.* per mile for a double line of rails; but if he will again refer to the pamphlet, he will find that I claim, on that score, in most cases, a moderate reduction, and indicate below how much is to be saved. On this point I must, to save your valuable space, refer again to "A. H. B." In the same Number of the *Mining Journal* (see pamphlet in my letter to R. J. Mervin, Esq., M.P., in the impression of March 11th of this year), in which he will find I have described a method of adapting the system to new railways in particular, by means of a slightly winding line, which, while it will simplify the arrangement, will also very considerably reduce the quantity of the more expensive machinery, &c., per mile. Under these circumstances, it would appear unreasonable at the present price of iron, to estimate the first cost of establishing the system at more than 5000*l.* per mile. Let it be remembered that the Northwich and Yarncliffe Railway is to be put into the hands of its proprietors complete for 10,000*l.* per mile. Thus, on the first view of the matter, and without considering the immense economies of power this system would bring with it, it appears that an even such a flat line as that between London and Slough, 18 miles, would be saved by adopting the hydraulic system; but to this amount, a sum equal to from 2000*l.* to 3000*l.* per mile more must be added, so it is manifest

NEW AMERICAN GEOLOGY.—A recent sitting of the Paris Academy of Sciences was occupied with a report on a communication from M. D'Orbigny, On the Geology of North America, in which the author states that the groups of that part of the globe bear a strong resemblance to that of Europe, in that where a difference exists, it is by no means as striking as, from the vast distances, might have been imagined.

RAILWAYS AND RAILWAY GARDENS.—The surroundings at this end of the line are growing with great vigour. On Faversham, the widening of the bridge at Cowley was resumed, and the full one can be expected in six months to be in the best place of work of the line from end of August. December 1870.

MINING IN THE EASTERN DISTRICT OF CORNWALL.

SOUTH CARADON.—Although immense returns have been made from this mine, and large quantities are still continued to be raised, but for the last six weeks the ore has not looked generally so well, yet there exists every indication of an early improvement.

WEST CARADON.—This mine appears to have gained in appearance what her neighbor has lost, and promises to become a formidable rival. Most of her levels are looking extremely well, especially the fifty fathom level, both going east and west.

EAST CARADON.—They are driving an adit level north, with a view of intersecting the South Caradon great lode; a very desirable object.

TORRENBURY.—The engine-shaft is sunk about nine fathoms below the twelve fathom level, which has been extended east and west on the course of a very flattening lode, containing some fine stones of ore. The underground operations have been greatly retarded in consequence of the scarcity of water to work their pressure engine. Most of the agents in the neighborhood concur in recommending the immediate erection of a steam-engine, for, although the provision now making, in forming an extensive pool, may furnish a supply of water during winter, yet there remains but little doubt the same inconvenience will be felt next summer, when her increased depth will require greater power.

MARKS VALLEY.—The new engine-shaft is down about thirty fathoms from the surface. Although her sales do not at present stand high on the list of the working papers, yet no mine in the district better deserves an spirited company, for there is but little fear of her fully returning a fair remuneration for the outlay. When the new shaft is down to the proposed depth, additional facilities for future operations will be afforded.

PHOENIX MINES.—The eastern levels of these mines are extended into what is anticipated most profitable ground, and from the flattening appearance of this vast lode in these levels, the most favorable anticipations may be indulged in.

WESTCOTT.—This promising little adventure is progressing. An engine-shaft has been sunk, and two levels extending, whilst a water-wheel is in course of erection. Here every facility for water machinery exists, from its proximity to a never-failing river.

LISKARD CONSOLS.—This mine is about two miles north of Liskard, upon the estate of Bernard Anstie, Esq., of Liskard, and commenced working upon the recommendation of an intelligent agent of the neighborhood. They have sunk the engine-shaft forty-five fathoms. At this level the north lode is found nine feet wide, composed chiefly of a vast body of mauls, and within the last few days they have also crossed out the south lode, which is of such a promising character, that the proprietors are anticipating an early day for the consummation of their wishes.

WHEAL GILL.—The resumption of this mine has commenced, by the preparation making for the erection of two water-mills. The engine which formerly stood here having been removed to West Caradon.

WHEAL ROBIN.—(in the parish of St. Neot's).—Capt. R. has recently returned from his first metropolitan visit; but what effect any transfer of shares may have upon the future prospects of the mine, certainly, nothing has yet been developed; nor has any improvement taken place in his absence, for the levels are at present poor, i.e., not rich.

CALLINGTON MINES, OR REDMOON.—They have cut a lode in the sixty fathom level, but whether it is an east or west lode, or a counter, has not yet been ascertained. It is poor, but very encouraging. The other levels are not rich, but some are productive. They are going on actively with the new engine at the lower or south mine, which will be ready to commence working in about three weeks.

HOLMSTON.—The ends upwards are looking poor at present. They have crossed out the north lode at the 110 fathom, or bottom, level, and commenced driving east and west by the same; last week the lode was taken down. Going east they have an excellent course of ore, some places three feet high, but going west it is not so good. The deep adit level at Lady Bram, or East Holmstun, is continued to be driven, but looking very poor at present.

DANESCOMBE (in Calstock Parish).—This little mine, which promised so well at one time, will no longer stand on record as a working mine. Her engine has been purchased by the Tamar Consols Company, and her steam-whistle removed to Marks Valley.

WHEAL MORKEAR.—The workings on this promising sett have been temporarily suspended, preparatory to some arrangements, but only to be resumed very shortly, with more than ordinary energy.

GUNNIS LAKE.—Very little is being done here at present, perhaps on the return of the spirited proprietor from the Peninsula, activity may prevail.

DEVON—ON THE BANKS OF THE TAMAR.

TAMAR CONSOLS, OR SOUTH HOVE.—This company have considerably extended their operations—having erected an engine on the Cornish side of the Tamar, and are in course of sinking the engine-shaft upon a marsh, timbering as they proceed. Query—Would not iron, or an iron cylinder, be preferable, being more secure and permanent?

REDFOOT CONSOLS.—They are progressing here under a very general, and, at the same time, encouraging opinion, of this being ultimately a good mine. The levels at present are not very productive.

There are several little operations going on on each side of the Tamar, by operative miners, who, from their opinion of the lode, have procured the sets; and, with full confidence of success, have lavished their limited means, and, in most instances, been eminently successful. It is highly gratifying to witness the zeal and perseverance displayed in carrying out their momentous undertaking; but individual enterprise does not always meet with merited reward, for their financial resources being inadequate, by protracted delays, to meet the expenditure, the capitalist is called to their assistance, and, in many cases, shares their hard-earned profits.—*Dispatch, Sept. 20.*

DISCOVERY OF COAL NEAR BARNARD CASTLE.—The men who have been boring for coal in the Flats Wood, after a few weeks' labour, came to a seam of coal at the depth of twenty-six fathoms from the surface, on Wednesday night; they immediately desisted working until the arrival of the colliery viewer on Tuesday, when the thickness of the seam was found to be 3 feet 6 inches, and the coal was pronounced to be of a very superior quality. It is thought that there is a second seam running below the first, of a greater thickness. It is expected little time will be lost in rendering the pit workable, as it will be of inestimable benefit to Barnard Castle and the neighbouring country.—*Durham Advertiser.*—An amusing incident is told in connection with this discovery. The Duke of Cleveland, being at Barnard Castle, called at a butcher's shop for the purpose of having his horse dressed. The butcher, and knowing his distinguished customer, entered into free conversation. The topic being the coal workings in operation near the town, his Grace inquired what was likely to be the result; to which the artisan replied—there is only one obstacle in the way of a shaft being sunk immediately, and that is, it is uncertain whether the Duke of Cleveland will grant a lease to the parties desirous of working the same. "Indeed?" replied his lordship, at the same time smiling, no doubt at the success of his own enterprise.

PIT BOUND.—A case relating to pit bounds was argued at great length before the magistrates, at the Justice-room, in this city, on Monday last. A summons had been granted to Michael Walker and others against the owners of Garmouthway Moss Colliery for a balance of wages claimed to be due to them, and the principal agent attended on the day in question to answer the summons. Walker, one of the complainants, stated that he had only received during his fortnight (the usual time of payment) 3s. 12s. 10d., whereas the bond had required 10s. per fortnight, and that a balance of 16s. 10s. was, therefore, due to him. The argument ended on the construction which was to be put upon an expression contained in the bond, which was this—that the men should "earn one with another 10s. per fortnight"—whereas the pit had not been worked more, on an average, than seven days in the fortnight from the commencement of the bond up to August last, and the men had consequently received a less amount of wages. It was, however, shown that Walker could have on and more money than he had done if he had from the first worked a full day's work of eight hours regularly, which he had the opportunity to do, and the Bench, after declaring that the bond was very difficult to understand, and that a portion of the second clause had a paradoxical bearing, decided that on the average of the four preceding consecutive fortnights, the complainant had received the specified sum of 10s. per fortnight.—*Mr. Roberts, "the prisoner's" barrister, conducted the case of the complainants.*—*Durham Advertiser.*

THE COAL TRADE.—The importations of coal into London last month were 308,430 tons, whilst in August, 1863, they amounted to 301,493 tons—showing a decrease of 6,937 tons on the month. On the eight months ending 31st of August, 1863, as compared with the corresponding period of last year, there has been a decrease of 86,517 tons, the quantity imported in the latter period being 1,486,903 tons, whilst this year it has only been 1,400,386 tons.—*Gloucester Observer.*

GENERATION OF VAPOUR.—M. Prevost, in a paper on the heat required for the generation of vapour in various fluids, gives the following table of the comparative power of steam—(sulphuric acid, 10; ether (sulphuric), 23; ether (oil), 30.7; benzene, 44.7; spirit of wood, 60.9; alcohol, 70.9; water, 100; common oil of turpentine, 120.2; indiar, 173.7; oil of turpentine, 210; mercury, 336.

LAST WINTER'S FETTERING.—Last winter a number of scientific gentlemen met at Mr. Jack's Zinc Works, New Road, to inspect a very curious model of one of our patent iron window shutters. The shutters slide up and down with the greatest ease; and, when closed, they lock themselves in the most secure manner, so that it is impossible to move them from the outside even with an instrument as heavy as a pickaxe, or the ordinary implements of housebreaking.

WHAT IS THE CAUSE OF THE RAINBOW ON THE DAY AT SEVENTH?—The air being then dry, reflects more or less of light—rays; and as dry air is not perfectly transparent, they are again reflected in the horizon. Such is the explanation given by Sir Humphry Davy in his beautiful *Autobiography*.

MINING CORRESPONDENCE.

ENGLISH MINES.

HOLMSTON MINING COMPANY.

Sept. 19.—Hitchins's shaft is sunk below the 120 fathom level 3 fms. 3 ft., and the ground is more favourable for sinking. In the 110 fathom level, on the south lode, west of Goldworthy's winze, the lode is one foot wide, and worth 15s. per fathom; on the north lode, west of the winze, no alteration; east of the winze the lode is twenty inches wide, and worth 35s. per fathom. In the 100 fathom level, west of Hitchins's, there is no alteration; the lode in the eastern slopes, in the back of this level, is twenty inches wide, and worth 35s. per fathom; in the western slopes the lode is sixteen inches wide, and worth 35s. per fathom; in the cross cut south of Wall's shaft, towards the Flapjack lode, the ground is hard for driving. In the ninety fathom level, west of Hitchins's shaft, there is no alteration since last reported; in the eastern slopes of Hitchins's shaft the lode is two and a half feet wide, and worth 55s. per fathom; in the western slopes the lode is twenty inches wide, and worth 35s. per fathom. In the eighty fathom level, east of Wall's shaft, the lode is twenty inches wide, producing good stones of ore; at this level west the lode is ten inches wide, producing stones of ore; in the south cross-cut the ground is favourable for driving; at this level, east of the great cross-course, the lode is one foot wide, and worth 15s. per fathom; the north lode, at this level, is fifteen inches wide, composed of spar, and, mauls; in the deep adit level, east of Lady Bram shaft, no lode taken down during the past week. The pitches continue to look well.

REDFOOT UNITED MINING COMPANY.

Sept. 18.—The lode in the forty fathom level, east of Blount's engine-shaft, is about twenty inches in width, composed chiefly of spar and mauls, with good stones of copper ore in places. The thirty-three fathom level, west of the new engine shaft, is still driving south to cut the lode, in which direction it is expected it has been thrown by the cross-course—from the small branches of copper ore met with in the cross-cut, it is thought that the lode cannot be far off; in the thirty-three fathom level east the lode is about two and a half feet wide, composed of gossan and mauls with black and grey ore intermixed, worth about 15s. per fathom. The lode in the twenty-five fathom level is about two feet wide, composed of spar, mauls, and ore, but at present will not more than pay for working—it is, however, a very promising lode; in the winze in the bottom of this level, sunk about seven fathoms below, and in which the lode is worth at least 15s. per fathom, is still suspended, on account of quickness of water—it is expected, however, to be shortly let down by the thirty-five fathom level, when driven a few fathoms further east, which will admit of effectual and profitable working of the winze and ore ground to the east and west. The engine-shaft, now down about four fathoms below the thirty-five fathom level, is in the cross-course, so that the character and quality of the lode cannot be reported. The pitches are looking very well, and the prospects of the mine may be said to be progressively improving.

J. H. HITCHINS.

CONSOLIDATED TRETOIL MINING COMPANY.

Sept. 18.—The lode in the fifty fathom level, west of Greenwood's shaft, is ten inches wide, tribute ground; the lode in the fifty fathom level, east of Greenwood's shaft, is fifteen inches wide, producing a small quantity of ore. The lode in the forty fathom level, east of Greenwood's shaft, is fifteen inches wide, good tribute ground.—We have sampled this day 107 tons of ore.

H. WILLIAMS. J. MORGAN.

UNITED HILLS MINING COMPANY.

Sept. 19.—In Williams's shaft no lode broken since last reported. In the eastern end of the seventy fathom level the lode is three and a half feet wide, two feet of fair quality; in the western end the lode is four feet wide, nine inches on the north part good ore. In the sixty fathom level, east of eastern shaft, the lode is two and a half feet wide, one foot on the north part producing ore; rather improved since last week. East of James's shaft the lode is five feet wide, very thorough, but not rich; west of James's shaft the lode is six feet wide, four feet of average quality. East and west of Nettie's winze, lode four and a half feet wide, very thorough, of a low quality. West of diagonal shaft, the lode is four feet wide, two feet on the north part producing ore of fair quality. In the winze the lode is three feet wide, one foot on the north part good ore; in the slopes, in the back of this level (James's), the lode is eight feet wide, four feet of average quality. In diagonal shaft there has been no lode broken for the past week. In the eastern end of the fifty fathom level, the lode is three and a half feet wide, eighteen inches of good quality; in the winze the lode is two and a half feet wide, one foot on the north part producing good ore. In Gibson's shaft the lode is two feet wide, producing but a small quantity of ore. On Stacey's lode, in the twenty fathom level, nothing done in this end for the past week; in the winze, sinking below this level, the lode is three feet wide, two feet good ore.

TAMAR CONSOLS MINING COMPANY.

Sept. 18.—In the eighty, west of Christie, the lode is one foot wide, with-out ore; the eighty east is fifteen inches wide, worth 10s. per fathom. In the seventy east the lode is at present split in branches, and poor. The sixty east is three feet wide, worth 3s. per fathom. The fifty east is two and a half feet wide, worth 10s. per fathom. In Good Fortune shaft, sinking below the fifty, the lode is about eighteen inches wide, producing good stones of ore. The fifty east is one foot wide, worth 6s. per fathom; the fifty west is three feet wide, worth 6s. per fathom. The thirty-four west is two and a half feet wide, mauls and ore; the thirty-four east is three feet wide, much the same in appearance. The twenty west is worth 3s. per fathom.

W. SYMONS.

CALLINGTON MINING COMPANY.

Sept. 18.—I beg to say at the north engine-shaft we have sunk about 3 fathoms 3 feet below the sixty fathom level; at this level driving south through the past week, we have had a rich course of silver-lead ore, more particularly in the bottom of the level; contrasting this level with the level above, there is every indication of a very productive lode in depth. At the fifty fathom level south, on some lode, we find it about six inches wide, holding silver-lead ore. The forty fathom level south continues unproductive. The thirty fathom level east, on copper lode, is about eight inches wide, holding copper, with mauls and spar. The thirty fathom level east, on copper lode, is about ten inches, composed of spar and mauls, with some good stones of ore. Our tribute pitches are looking favourable. Horndown adit still progresses through favourable ground. At the south mine the engine is fast getting into order, and other works in a state of forwardness.

JOSEPH T. PHILLIPS.

WHEAL WHEAL JEWELL MINING ASSOCIATION.

Sept. 18.—The ground in Backingham's shaft, below the eighty-five fathom level, is still hard. The eighty-five east, on Wheal Jewel lode, is eighteen inches to two feet wide, of a more promising appearance, and letting out a great deal of water. The lode in the eighty-five west has not been taken down since our last. The seventy west on the same lode is worth 10s. per fathom. The winze sinking below this level is two feet wide, and will produce four tons of good ore per fathom, worth from 25s. to 30s. per fathom. In the winze sinking under the seventy east the lode is worth 25s. per fathom. At the seventy east, on the new lode, we have taken down the lode since our last; the ground about it is very favourable. Backingham's diagonal shaft, sinking below the forty-two fathom level, the lode is fifteen inches wide, worth 6s. per fathom.

STEPHEN LEAS.

TAMAR SILVER-LEAD MINING COMPANY.

Sept. 18.—In the 120 fathom level the lode is three feet wide, producing ore, but not rich. In the 100 fathom level the lode is one foot wide, producing some promising work. In the 100 fathom level the lode is two feet wide, producing some good work. In the ninety fathom level the lode is just the same width, very promising. In the eighty fathom level the lode is twenty-two feet in width, producing good silver work. In the seventy-five fathom level the lode is eighteen inches wide, composed of spar, and silver-lead ore. In the sixty fathom level the lode is two feet wide, composed chiefly of soft spar, intermixed with silver-lead ore. In the fifty fathom level the lode is large, but comes for ore. In the forty fathom level the lode is three feet wide, producing some ore, but also of a coarse quality. In the thirty fathom level the lode is six inches wide, producing very work. We sold on the 11th last, two parcels of silver-lead ore, viz. No. 1, eighty six tons at 15s. 6d. per ton, and No. 2, twenty-eight tons at 10s. 4s. per ton. At the North Hill we have again commenced sinking the engine-shaft below the thirty fathom level, and also continuing our cross-cut west at the same level. At Wheal Henshaw the engine shaft is now between six and seven fathoms below the surface.

J. BERNARD.

DUNDEE MINING COMPANY.

Sept. 18.—Murray's engine-shaft, sinking below the sixty fathom level, will be completed to the seventy by the end of the present month; the ground is of a white crystalline nature, and favourable for sinking; the lode is large and producing some lead. In the sixty fathom level, driving west of Murray's shaft, we have again cut into the north lode, and find it three feet wide, but, on the whole, poor; we have reported these same to drive south of the great engine-shaft at the seventy fathom level to intersect the Christie lode which is distant, we calculate, about three fathoms; this done, our intention is to stop westward on the course, with an idea to prove whether any of the rich shallow veins of lead (found by the former proprietors to hold down to the only at the twenty-four fathom level) may again become their production at a deeper level. There has been no lode reported to have made but very little progress towards sinking in the back of the seventy fathom level west, for the purpose of being in the winze, in consequence of having had the clock in one bottom 10s., by which cause the seventy fathom level has been filled with water nearly the whole of the week; this, however, is now remedied, and

everything is again in good working-order. The north lode, in the winze, sinking below the sixty fathom level, is still open, and without much attention for the last week or two past. The stopes in the sixty fathom level continue very good, producing quantities of rich work. We sampled on Friday last, composed sixty tons of ore of good quality.

J. WENNA. R. ROWS, JUN.

TINCROFT MINING COMPANY.

Sept. 18.—I beg to hand you my report.—The lode in the seventy fathom level, east, in two feet wide, good work for copper ore, worth 35s. per fathom; the west end same level is worth 4s. per fathom. No lode taken down in the sixty east since my last; the lode in the sixty west is two feet wide, worth 35s. per fathom; the winze sinking under the sixty east is worth 35s. per fathom; the pitch in the back of this level continues to look well. The lode in the fifty east is two feet wide, worth 4s. per fathom, leaving good back and bottom; the run in the back of the fifty west is worth 14s. per fathom; the fifty west, on counter, is worth 4s. per fathom; the winze in the bottom of the fifty east is worth 15s. per fathom; the winze in the bottom of same level west is at present unproductive, though kindly; the pitch in the back of this level also continues to look well. The lode in the forty east is four feet wide, producing some good stones of copper ore, with some tin, worth 10s. per fathom—here, I expect, we shall have a much better lode soon, as we are getting into the same channel of ground as in the level below; the winze sinking under the forty west has for some time been unproductive, but is now producing some good stones of ore, and very kindly; the forty west is at present yielding but a small quantity of ore. At Palmer's, the winze sinking under the sixty-five fathom level is promising some ore, and improving as we sink; the sixty-five west is producing some good stones of ore, and very kindly; the same may be said of the run in the back of the fifty-five. At the south mine we continue to rise good work for tin from the stopes in the back of the eighty-one and ninety, and also from some of the winzes. On the whole, I am glad to say, our mine has very much improved since my last.

W. PAGE.

FOREIGN MINES.

PARAGUAY, SEPT. 15.—The Royal mail steamer Des. Commander Hambley, has arrived; her dates are—from Jamaica the 10th, Haiti the 20th, and from St. Thomas the 1st ult., and from Fayal the 13th ult. She has brought twenty-five passengers, and on freight 200,000 lbs. of sugar, and 100,000 of gold.

SEPT. 15.—By her Majesty's packet *Perseus*, Lieut. Crooke, arrived here received from Rio de Janeiro on July 21, from Bahia in the *Zeus*, and from Pernambuco in August 4. Freight about 25,000. Passenger, Mr. Oliveira; in the stowage five miners.

[We have been unable to lay before our readers such correct mining intelligence, received by these packets, in our present number, as we could have wished, but shall prepare ample details for the next week's Journal.]

BRAZILIAN COMPANY.

Cuba Brown, June 14.—I enclose a letter from the mining captain (Williams), relative to the Semidouro. Of the four samples I had taken, none proved good, though the stone was all very good-looking. One gave at the rate of 200 tons of ore to 1 lb. of gold; the second, 100 do. do.; the third, 50 do. do.; the fourth, 40 do. do. They were all taken from the lode when left unworked by the former proprietors, and therefore could hardly be expected to give well—at the same time I looked for a better result. At St. Antonio I have not yet been able to stamp any of the No. 14 lode, not having transported sufficient to put down in the deep level, and it being in consequence necessary to haul the lode in surface, which has caused the removing of a winze, and other necessary jobs. A few days, and all will be in course—sufficiently so at least for trial of the lode, of which, if it answers, we shall soon be in position to break a large quantity. In my last I told you that the lode on the Othos Major and Minor stopes was giving better—this I am very glad to have in my power to confirm, for I am still keeping it separate; I believe this work it will be found not to exceed 30 tons in the 1 lb.

June 18.—The gold return for the past week, I am happy to say, bears out my expectation of improvement in the Othos Major and Minor—and this in the more encouraging, as that part of the lode was, at the beginning of the year, decidedly the poorest in the mine. Capt. Williams hopes that, though the lode in these stopes has been badly, he shall hereafter be able to send out thirty tons a day. If he can accomplish this, and the lode holds its present value, we shall be able to do much better than of late, and I hope and believe that we shall. He is also of opinion, that, as we open out west, under the horse, the lode will make strong; several rich specimens have been broken there lately, where, only a week or two since, nothing like mineral was seen.

July 4.—The stamping fully bears out Capt. Williams's opinion of the improved quality of the Othos Major and Minor, but does not show any improvement in the bottom. The first is about thirty tons in the 1 lb.; the latter still remains at about sixty. It is my painful duty to inform you of loss of life from accident—a negro was yesterday killed in the mine, and most fortunate it is that more did not suffer, for a piece of rock, of about 200 tons, fell from near the surface, and carried away two of the main and two small stuffs—the ladders, tramroad, and everything, in fact, for twelve fathoms in length was carried away. It will take some time to put things on their former footing, but I hope to-day to see the engine again at work, as the water is rising fast, but we shall not be able to get much stuff from the mine for several days. The gold was sent to Rio yesterday—70 lbs. 11 oz. 16 dwts. 17 grs. Try, being exclusive of duty, the produce from 10th April to 30th June.—[Arrived per *Petrol* packet.]

July 10.—I beg your reference to the gold report for the past week, so showing that the lode, including 100 tons from the Laura and No. 8 sink, has improved to an average of forty-four tons in the 1 lb. On this point, however, I do not feel quite sure; for, to keep the stamps going, we have been obliged to take out from every hole and corner, and perhaps a little very rich stuff, broken of old, has found its way to the hoppers. However, there is no doubt that the ore from No. 6, and out just before the accident, was under thirty tons in the 1 lb. To-morrow I shall bring a trial of the No. 14 San Antonio lode; but what will be stamped at first is much mixed with rubbish, and not from where the lode showed fair specimens. I, therefore, do not expect much for some days, but I have sanguine hopes of this mine.

E. HARRISON.

Gold return for six weeks to July 7, 41 lbs. 1 oz. 6 dwts. 19 grs.—Ditto for the month of June, 37 lbs. 11 oz. 6 dwts. 23 grs.

ST. JOHN DEL REY MINING COMPANY.

The packet from Brazil brought 100 lbs. 4 oz. of gold for this company. The produce for the month of June was 10 lbs. 10 oz. 6 dwts. 23 grs. Every thing, we understand, is going on favourably.—We shall give all particulars in our next.

IMPERIAL BRAZILIAN MINING ASSOCIATION.

Gold Report.		
Date of produce.	From the stopes.	Total raised.
1863—June 15 to 21	Eight working days, particulars not known.	Lbs. 57 6 12
" "	" "	" 0 0 0
" "	" "	" 0 0 0
" "	" "	" 0 0 0
July 1 to 7	" "	Lbs. 14 5 0
July 8 to 14	" "	" 12 0 0
July 15 to 21	" "	" 10 0 0
July 22 to 28	" "	" 10 0 0
July 29 to 31	" "	" 10 0 0
Total—15 days	" "	Lbs. 50 6 12

Total from 1st January to 31st June 1863 Lbs. 605 6 12

N.B.—A remittance of 60 lbs. 12 oz. 6 dwts. (value about 1000s.) has been shipped per *Petrol* packet, whose arrival is daily expected.

MINE ACCIDENTS.

Combustion.—On the 21st inst., at two men, named W. Collins and T. Hanks, were standing on a platform over a shaft of the Map Brown Mines, a plank gave way, by which they were precipitated to the bottom—depth of six fathoms—there was some water at the bottom of the shaft, which, in some measure, broke the fall. Hanks was enabled to get on the ladder, and assist his companion who was very seriously injured, but hopes are entertained of his ultimate recovery; Hanks, with the exception of the shock, was not materially injured.

Chapel on St. Paul.—An accident happened at a quarry called Doveholes, by which our life was lost, through the falling of a mass of rock.

Blindfold Coal Company.—A most extraordinary explosion of a boiler took place on one of the steam-engines of the Blindfold Coal Company, near Wigan, on Wednesday, which might have been attended with fearful consequences. At the time of the accident a boy was standing very near to the boiler, and between it and the engine-house. A few yards further distant several men were engaged at work, and a little beyond them, and close to the pit-mouth, were a number of women and children, yet none of them sustained any material injury. The boiler seemed to have nearly burst, taking with it a quantity of bricks, and creating the chimney of the engine-house in the passage in the air, and when, as is supposed about 200 yards high, it burst, and the bottom of the boiler was thrown nearly 100 yards from the engine-house and the pit-mouth, and the top and sides of the boiler, but in another direction. Some bricks and a portion of water from the boiler were scattered among the workpeople, slightly bruising and scalding them; but all were able to resume their employment on the following day. The boiler was a large round one, and on an engine, we believe, has not been assigned for the extraordinary manner in which it exploded. Had it burst quite open, as is usually the case, before leaving the brickwork by which it was surrounded, the consequences would most probably have been frightful. As it is, no damage was sustained, excepting to the chimney, which was thrown out of the perpendicular, and will require to be repaired, or rebuilt.

CHRYSE MOUNTAIN NEW ZEALAND.—By the last accounts from the newly discovered mines of Chryse Mountain, New Zealand, it appears that the different strata of the best coal-mines of the world have been discovered; and although only eight miles (and yet but partially explored) on the north and other works have been employed, a shipment of forty tons, of very superior quality, was made to Australia, being the produce from Feb. 15 to April 6. Greater activity was required in the winter, which produced a yield of very large masses.—*Falmouth Packet.*

